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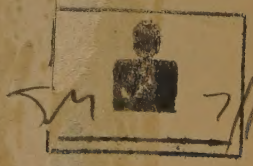

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SOCIOLOGICAL THEORY AND SOCIAL RESEARCH

BEING SELECTED PAPERS OF

CHARLES HORTON COOLEY

LATE PROFESSOR OF SOCIOLOGY IN THE
UNIVERSITY OF MICHIGAN

WITH AN INTRODUCTION AND NOTES BY

ROBERT COOLEY ANGELL

NEW YORK

HENRY HOLT AND COMPANY

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INTRODUCTION

Charles Horton Cooley was born August 17, 1864, in Ann Arbor, Michigan, the fourth of the six children of Thomas McIntyre and Mary Horton Cooley. The very year of Charles' birth his father was elected to the Supreme Court of Michigan. This was but one of the milestones in the remarkable life of a man who had been brought up on a farm in western New York, had migrated to Michigan at 19, and whose study of the law had led to his selection as Reporter of the Supreme Court of the state and one of the three original law professors at the University of Michigan. In the years until his retirement in 1891 he was to serve 20 years on the Supreme Bench, act as Dean of the Michigan Law Department, and become the first chairman of the Interstate Commerce Commission, as well as to publish several great legal treatises, the best known of which are his *Constitutional Limitations* and his *Law of Torts*. The son early showed much of the intellectual intensity of his father, though, as the following excerpt from his journal (July 21, 1895) shows, he labored under severe handicaps:

"One of the earliest things I remember is a habit of sitting by myself and thinking. I felt indignant that people should laugh at me when I made this an excuse for lying on the sofa in the evening. I think my mind was not very profoundly influenced by any of my earliest associates, mostly boys older and more aggressive than I with whom I never came to any confidences. Indeed I never had the habit of talking about the things of which I thought most until within a few years. My real life went on within, somewhat vague in its thoughts and aspirations but intense and penetrating. I was passionately eager for applause and a great part of my mental life was spent in imagining situations in which I was the glorious hero. I confronted lions escaped from their cages, while the terrified crowd wondered; or I dauntlessly entered burning buildings or jumped into the river and saved the drowning. I usually

devised these scenes with special reference to some person for whose approval I just then ardently longed. In real life I was shy, timid and even cowardly, except on rare occasions when I got into a passion. I think shyness rather than cowardice was at the bottom of it; because though I was afraid of a strange boy smaller than myself and ran away if one attacked me, yet if I knew the boy well I was not afraid of him even if he was bigger than I. I believed myself a coward, however, and it was a cause of frequent self-reproach. At one time—I think when I was nine or ten years old—I passed through an experience which may be called realizing one's mental individuality. My inner world of thought was wide and vivid and I remember suddenly asking myself one day if a certain other boy had such a private life also. I could not believe that he did, but I had no notion of attempting to find out.

"All through my early life the discrepancy between my ambitions and my actual state was great and often painful. I lived much in imagination, dreaming tales of various kinds of glory and adventure of which I could have given no notion in words. The raw material of these fictions was drawn from things I had read or heard, but there was plenty of originality in its arrangement.

"From early childhood—perhaps the age of 8 or 10—until I was over 20, my health was miserable, so that my youth was in the main very dreary. I desire nothing less than to live it over again. There is scarcely any period of my past life that I would care to repeat. . . . I have sometimes thought that the fierce eagerness of my inner life, exhausting my strength, was the cause of this physical trouble, but I cannot tell. The matter was made worse by an almost incredible shyness. I could never have brought myself voluntarily to speak of such a trouble, even had I understood its nature, which of course I did not. I believe this trouble and the depressing but obscure diseases that followed it had a great deal to do in making my character what it is. It made me unlike other boys, so that my inner life proceeded with an intensity and apartness hardly normal. During a great part of my youth my voice and articulation were so feeble that I could hardly make myself heard in conversation without special effort. I endured a

torpidity of mind and body that must have seemed weakness and indolence.

"For these reasons I was, for a bright boy, remarkably deficient in command of language. I could frame sentences, either spoken or written, only with a great effort. Later I made tremendous efforts to overcome this. At one time I used to write all my letters at least twice.

"As a small boy I read more but not better than other boys. Oliver Optic's stories were about the kind I liked best. I should have read dime novels if I had had them. I was immensely fond of pictures and always wanted to look longer than any one else. I also had a strange taste for spreading an atlas on the floor and poring over the maps. The map was only a material basis for dreams; I had only a vague idea of what was represented and was never led on to a definite interest in the various countries and peoples.

"The water always fascinated my imagination beyond almost anything. Whenever I could I used to go down to the creek with another boy of similar tastes and spend whole afternoons catching minnows, building dams and the like. Boating on the river or the lake was a rarer and intenser joy. Indeed notwithstanding my small strength I had the strongest possible taste for all out-of-door sports and was fairly good in all of them except skating; in that I failed from a weakness of the ankles. I could walk as far as older boys, was a good swimmer and became a good shot when I was about 15 and had a gun. In all these things 'imagination's as one would' always went infinitely beyond the facts. My intenser life was always a dream-life. I did a little, read a great deal and fancied infinitely.

"I had no precocious taste for good reading. Even Scott I did not read until I was grown up; I think this was because there was no set in the house. My favorite book was *Swiss Family Robinson,* which I read many times and preferred to *Robinson Crusoe.*

"The first notion of more discriminating reading came to me through Macaulay. I must have been about 13 when I somehow fell upon his essays and, later, upon his life by Trevelyan. These books ruled my thoughts for a long time and

made for me the transition from tales of adventure to the finer literature. The essay on the younger Pitt I read and re-read with passionate eagerness. Trevelyan's *Fox* was another immense favorite. The boy-like enthusiasm of Macaulay for literature and politics awoke something of the same in me—as I believe it must in all bright boys. This did not at once lead to any great familiarity with the English classics; but it gave me a start. At this period and long after I cherished political ambitions, which I think must have been inspired by Macaulay. From my very infancy to the present day I have always had intense ambition, which leads me to figure a splendid future in some form or other: this now presented itself as political leadership, not lingering at any minor eminence but proceeding at once and as of course to a pitch of power and glory of which history showed no previous example. Julius Cæsar's notions of personal greatness were not a bit more exorbitant than mine, nor more seriously and tenaciously entertained. My confidence in the future seems almost to have been in inverse proportion to my actual attainments or reasonable expectation. For a long time I cherished the belief that I could do literally *anything* that I chose to attempt. Although I had not voice enough for ordinary conversation and no ear for music, I soberly held that I could become a great public singer if I chose to apply myself to it. However, although I believed this career quite practicable I preferred that of a great orator and for many years cherished fervently the design of being such. For this I was, to all appearance, scarcely more suited than to public singing; yet I believe that I have something of the temperament of an orator and that if my organization had been a little more massive I might have excelled in moving men through speech. The idea of doing so always thrilled me incredibly—I feel something of this still, notwithstanding the tremendous gulf between fact and desire. It was always my habit to set seriously and industriously about the realization of my ambitions. It was so in this matter of being a great orator. I not only read the speeches of Macaulay, Burke, Fox, Erskine and Webster, but I was at great pains to analyze some of the speeches and kept all sorts of note books. At one time after I entered college I entertained the plan of learning De-

mosthenes' *De Corona* by heart, and actually accomplished two paragraphs. I got farther with Milton and committed most of the speeches in the second book of *Paradise Lost*. These things were suggested, of course, by Macaulay, and I was encouraged in them by the companionship of a friend who was going through a similar experience. I would have carried many of these things much farther if this had not been the very worst period of my ill health, when I was so feeble that I could not even keep up my school work—though I could always make a maximum recitation upon a minimum of study. I think my intellectual activity was certainly not more than a third of what good health would have permitted.

"I hardly know just how I got from Macaulay to Emerson but the latter was certainly the second great master of my thought and remains so, in a manner, at the present time. I think my first definite notion regarding Emerson came from a passage in one of Miss Alcott's stories; the first book of his I ever handled was lent me by a friend. It contained 'The Sphinx,' which I understood pretty well and which made a great impression. His prose seemed at first hard to understand: this was because of a habit of reading only easy, obvious things."

Though Charles Cooley was prepared for college at 16, it was seven years before he received his degree because his health forced him to take a reduced schedule of work. He traveled considerably during this period, taking trips to Colorado in '82, to the Carolinas in '83 and abroad in '84. The Colorado venture was a surveying expedition during which he underwent severe hardships.

The autobiographical material in the first paper of this collection, "The Development of Sociology at Michigan," begins at the point of his graduation from Michigan in 1887. Since, however, what is there given is an account of Cooley the sociologist rather than of the whole man, a few further biographical facts will be added here.

It is evident that in the period immediately following graduation he was uncertain as to what career he should follow. With an already strongly developed bent toward reading and reflection he naturally inclined to scholarship; on the other

hand he was fascinated by the problems of engineering and transportation with which his generation was so much concerned. The final result was a transference of interest from physical to psychical communication and a life of scholarship devoted to the analysis of the latter, but during this period there was considerable doubt and fluctuation. Writing in August, 1888, from Bay City, where he had taken a position as a draughtsman, he says: "I hope to settle ultimately in some occupation that will give me time and encouragement to think and write. I am not discontented now: I am learning a great deal and think my work is just right for the purpose, but deliver me from a lifetime of it." December of the same year finds him applying to the University of Michigan for permission to study *in absentia* for an M.A. examination in June, 1890, majoring in political economy with a minor in history. About this time he writes: "Over a year ago I thought a good deal about the matter and it seemed to me then that I was qualified to accomplish something as a thinker and writer on social questions." He was wondering whether he might pursue this scholarly aim, not as a member of a university faculty, but as an accompaniment of a business career. When he sought the advice of President James Burrill Angell, however, the latter urged the superiority for his purpose of an academic life and so he returned to Ann Arbor in January, 1889, to take up his studies in residence. When, however, the Interstate Commerce Commission three months later asked him to investigate ways by which railway managements might cut down accidents, he seized the opportunity and went to Washington. Finishing this job in August, he took another one in October, this time with the Census Bureau. It was out of this statistical work that his first scientific paper, "The Social Significance of Street Railways," grew—a paper which shows that he was already thinking somewhat in sociological terms.

During the summer of 1890 he married Elsie Jones, a daughter of Dr. Samuel A. Jones of the Michigan Homeopathic Medical College. Theirs was a rare union, and one which was of the utmost importance to his development. Mrs. Cooley, well read and capable of fine expression both in prose

and poetry, was of great service as a sympathetic critic of his writings, both in regard to clarity and form. Furthermore, realizing that his genius needed to be unfettered, she so ordered her life as to free him from worry on her account, and kept others from encroaching upon his quiet mode of living. After their six months' trip to Europe in the winter of 1891-2, the young couple returned to settle in Ann Arbor where Professor Cooley began his long teaching career in the fall of '92.

It is unnecessary to say anything here relative to Professor Cooley's eminence in sociology. History will assign him his proper place regardless of the encomiums of his many admirers and disciples. It is equally needless to enlarge upon the worthy qualities of this gentle, thoughtful, humane spirit. He has left himself in imperishable form in *Life and the Student* as it is the fortune of few mortals to do.

Architect of his life to the last, he characteristically left a memorandum stating which of his scattered papers he considered worthy of republication in the event any one conceived such a plan. The present volume represents his choice with the addition of the first article, which has not as yet appeared elsewhere. Those of us who were close to him wish that he had seen fit to allow the inclusion of five other papers [1] which seem to us highly significant. It is probable, however, that he has more truly evaluated his work than we, and that those papers which he omitted represent less vital contributions than those herein contained.

R. C. A.

[1] Nos. 4, 5, 10, 21, and 25 in the Bibliography, pp. 343-5.

THE DEVELOPMENT OF SOCIOLOGY AT MICHIGAN

I

THE DEVELOPMENT OF SOCIOLOGY AT MICHIGAN[1]

It is not unknown that universities, even in America, offer a certain resistance to novelty, and when a new plant of knowledge takes roots and flourishes within one it is almost always, I imagine, through the initiative of one or more individuals who set out the plant and devote themselves to its nurture and defense. So it was, at least, with the early growth of the study of sociology at the University of Michigan, and I do not see how the history of the department that later appeared there can begin otherwise than with some biographical matter—in this case autobiographical—relating to the first teacher.

One afternoon in the fall of 1892 I was walking down the diagonal walk on the Michigan campus with Henry Carter Adams, head of the Department of Political Economy, and Fred M. Taylor, assistant professor. Their conversation turned on proposed extensions of the department work, and in reply to some suggestion by Taylor in this direction, Adams said that "he would rather see a course in sociology offered." I imagine that his attention had been drawn to that subject through the course then recently offered by Professor Giddings at Bryn Mawr, though Adams himself was sociological in the breadth of his outlook, and is well known to have been a leader in enlarging the scope of economics. He must have known that I was interested in the subject, but probably had not thought of my attempting to teach it. There was, I think, no discus-

[1] This was written at the request of Dr. L. L. Bernard early in 1928 for inclusion in the contemplated volume on the development of departments of sociology in American universities, under the editorship of Dr. Bernard. Dr. Bernard has kindly agreed to the publication of this material here before it appears in his own volume. The present paper is of peculiar interest because it is so largely autobiographical in character. Strict conformity to the chronological arrangement of this volume would place this next to last, but it is put here because of its value as an introduction to Professor Cooley and his work.

sion of Adams's remark at the moment, but as soon as I saw him alone I said that I would like to offer a course in sociology and was encouraged to prepare myself to do so.

At that time, having taken my first degree in 1887, and stayed a year longer to study mechanical engineering, which I practiced for a few months in a shop at Bay City, I had spent two years at Washington in statistical work and the study of transportation; having been employed first by the Interstate Commerce Commission to prepare a report on safety appliances (for which my mechanical training was thought to qualify me), and later by the Census Bureau to collect statistics of street railways, I had then gone abroad for six months, returning to Michigan as a half-time instructor in political economy and a candidate for the doctorate in that subject. My thoughts, however, were turning more and more towards sociology, and it is time to tell how this had come to pass.

I can hardly say that any writer commonly reckoned a sociologist was of the very first importance in my mental growth. The three minds from which mine received its main impulses were, I believe, those of Emerson, Goethe and Darwin. From Darwin I got, in the long run, the most satisfactory idea of the general process of nature and of the way to study it, while for companionship and guidance in my efforts to understand the world of men, I resorted to writers of little system but great wisdom, to Emerson, chiefly as a young man, then to Goethe, and, in lesser measure, to Bagehot, William James and many others. The working up of my material into what seemed to me a logical and more or less verified body of social knowledge could not be done for me by any one but was a lifelong and laborious task of which my writings are the visible remains.

But I felt, at the start, the need of a system to serve as a frame-work for my accumulating ideas, and in pursuit of this I came, for a while, under the spell of Herbert Spencer, from whom I got my first outline of a general scheme of evolutionary knowledge. I began seriously to read him, and to buy his books (it was common, in those days, for students to accumulate a library), in 1888, and, I think, had read all those then published, except the *Psychology,* by 1892. It was his gen-

eral conception of the progressive organization of life, especially as developed in the second part of *First Principles,* that appealed to me, rather than his more specific views on society, with which I was never in sympathy. Of Comte I knew nothing at that time, nor did he come later to have any considerable influence upon me.

As regards the academic possibilities of sociology I had been awakened by the papers of Professor Giddings which appeared about 1890, dealing with the province of the subject, its relation to political economy and its suitability for university study. I may add that I had made the acquaintance of Giddings, probably at the 1890 meeting of the American Economic Association at Washington, where, at least, I remember hearing him speak, and that he had given kindly encouragement to my sociological aspirations. It was he more than any other who led me to believe that sociology might become a university subject, and myself a teacher of it.

Lester F. Ward was also at the Washington meeting and was most courteous to me, complimenting me on a paper that I read on what would now be called the ecology of street railways, and giving me a ticket to the Cosmos Club, which, however, I neglected to use. I knew hardly anything of his works at that time but read later, with profit, what I found to be the more readable of them, and had an interesting correspondence with him regarding Galton's views on genius. I had and have the greatest respect for Ward, and concur heartily as to the high rank assigned to him in American sociology, but it would be untrue to say that his writings had any large part in forming my own conceptions of the subject.

With this preparation, and a very ardent purpose to share in that new development of social knowledge that seemed about to begin, I offered sociology as one of my minor subjects for the Doctor's degree, and set myself to study the accredited authors. I read enough of Comte to give me a general idea of his system, Ward's *Psychic Factors of Civilization* and part of his *Dynamic Sociology,* Darwin's *Origin of Species* and *Descent of Man,* and more or less in Gumplowicz, Quetelet (statistics was my other minor), Sir Henry Maine, Morgan, McLennan and Westermarck; also in Jane Addams and other

philanthropic writers. But more time and labor than I put on any of these went to an arduous perusal of the first volume of Schäffle's *Bau und Leben des socialen Körpers.* I was looking for a view of the social system that should be more satisfactory than Spencer's and it seemed to me that Schäffle offered the best prospect of it. Indeed, from my recollection of it, I have no doubt that his was in many respects a very good view indeed, but just how much it helped me in working out my own conceptions I am unable to say.

John Dewey, whose lectures on political philosophy I attended in 1893-4, certainly left a lasting mark, but rather by his personality, I think, than by his lectures. I had already known him some ten years, as he had come and gone from Michigan as a young instructor in the early eighties when I was an undergraduate. In the group to which I belonged his character was deeply admired, for its simplicity, perhaps, and for a fine gallantry, which, one felt sure, would never compromise the high purpose by which he was visibly animated. We believed that there was something highly original and significant in his philosophy, but had no definite idea as to what it was. The chief thing I now recall from his lectures is a criticism of Spencer, in which Dewey maintained that society was an organism in a deeper sense than Spencer had perceived, and that language was its "sensorium." I had already arrived at a somewhat similar view.

My examination came off in June, 1894, the questions in sociology being sent on from Columbia by Professor Giddings. They are now before me, and are divided into three groups: Society and Social Evolution, The Family, and Philanthropy. My answers are with the questions and I doubt whether any one ever read them.

Having taken my degree and being still, nominally, a half-time instructor in political economy, I offered, for the academic year 1894-5, three lectures a week in sociology throughout the year, the first semester being given to Principles, the second to Problems. I also gave a one-hour course to statistics and continued to do some teaching in political economy until, at the end of the year, I was appointed full-time instructor in sociology.

The class in sociology which I faced in October, 1894, consisted of twenty-seven students, three of whom were graduates. One of the latter, John B. Phillips, took his doctorate at Cornell in 1897 and was later Professor of Economics and Sociology, first at the University of Colorado and later at Indiana University, where he taught, I believe, until his death. Another, Delos F. Wilcox, took a Doctor's Degree at Columbia in 1896 and has had since a distinguished career as a specialist —always on the side of the public—in franchises and public utility administration. Among the undergraduates was Robert H. Whitten, who became a Ph.D. of Columbia in 1898, was prominent in the public library and statistical services of the State of New York and is at present an expert in city planning.

The course in Principles began with a survey of early social development based on Darwin, Spencer, Maine and various ethnological writers. The analysis of contemporary life opened with a discussion of social organization in general, of the relation of the individual to the group, and of the growth of individuality and freedom. This, however, was not much like the psychological interpretation of those matters that I worked out later, but rather abstract and philosophical, and more concerned with economics than psychology. Then came a discussion of transportation and communication as social mechanism, including matter on imitation and tradition. Institutions followed—an attempt to show how they arose from enduring human interests—the family, government and the economic system being treated at some length. Finally there was a rather elaborate discussion of processes of competition and survival, and of the nature and test of progress.

Probably the most distinctive part of this offering was that dealing with transportation and communication. It is my observation that anything like an original view always comes gradually and as a result of working through some sort of experience, rather than by the mere pondering of second-hand ideas. I had just had an educative experience of this sort in regard to transportation, with which I had for two years been concerned at Washington. My Doctor's thesis, on the Theory of Transportation, had been an attempt to interpret this function in terms of an organic social whole. But while working

in this region I could not fail to reflect also on the psychic mechanism, embracing all sorts of language and the means of its transmission and record, whose function was analogous to that of transportation and even more intimately concerned with the social process. So I pursued these two mechanisms through history and contemporary life until I could see them and their social implications in something of the vividness and detail of actuality, acquiring thus a base from which I could develop my exploration of the social organism in any direction I wished. Communication was thus my first real conquest, and the thesis a forecast of the organic view of society I have been working out ever since.

From communication I went on, in my studies and in my lectures, to deal in a like sense with conflict, survival, adaptation, in short with all the main aspects of social process. Already, in 1893, I had read to the Michigan Political Science Association, and published in its *Proceedings,* a paper called "Competition and Organization," which aimed to present these two activities as complementary phases of social growth. An article called "The Process of Social Change," appearing in the *Political Science Quarterly* in 1897 was of a similar trend, and in 1899 the American Economic Association published as one of its *Studies* an essay of about 100 pages entitled, "Personal Competition; Its Place in the Social Order and Effect Upon Individuals, with Some Considerations on Success."

Still working out from communication I was also during this period becoming a social psychologist. It was more and more borne in upon me that I could never really *see* the social life of man unless I understood the processes of mind with which it was indissolubly bound up. I saw that there was a gap between the ideas of structure and function I had so far been working on and the actual motives and behavior of men, which left the former somewhat hanging in the air, like the end of an unfinished bridge. To fill this I resorted to observation, and set to work upon an assiduous though amateurish record of the mental-social development of my children, born in 1893 and 1897, at the same time reading whatever pertinent literature I could find. This study was of great advantage to me, and I retain from it a conviction that scientific observation of chil-

dren requires the strenuous use of all the knowledge and imagination one can bring to bear, that it has not been undertaken seriously enough to be very fruitful, but that the possibilities of it, *when you know just what to look for,* are most inviting. I returned to this method, concentrating upon a limited problem, in 1908, when I wrote my "Study of the Early Use of Self-Words by a Child," published by the *Psychological Review* in November of that year.

I had read, soon after I began to teach, Bagehot's *Physics and Politics,* certainly one of the really great books bearing on the psychology of society, and now I took up James's psychology, which made me long to treat sociology with something of his vividness and human breadth. I read also Tarde's *Lois de L'imitation* and Baldwin's *Mental Development in the Child and the Race,* and somewhat later, the latter's *Social and Ethical Interpretations.* I remember with peculiar pleasure a group of three, consisting of Harlow S. Person, now a great name in Business Administration, William M. Wherry, a youth of singular ability and personal charm, later, by way of Columbia, a noted New York lawyer and a lecturer on constitutional law at Dartmouth, and myself, which used to meet about 1899 to discuss Baldwin's books.

Thus my first book, *Human Nature and the Social Order,* appearing in 1902, was the outcome of quite recent studies, while my earlier inquiries into social process were not mature and published until sixteen years later.

I was also considerably interested during the nineties in social biology, and especially in Galton, whose *Hereditary Genius* led me to attempt a refutation of his extreme view of the preponderance of heredity over social conditions in the forming of great men. This refutation consisted of research as well as argument and was published in 1897 by the Philadelphia *Annals* under the title, "Genius, Fame and the Comparison of Races." I also introduced my students to eugenics, a subject that at that time had apparently not been embraced by American academic biologists; at any rate I had to buy the books relating to it for the Michigan library. During this early period, and indeed all through my teaching, I was giving to my students what I was in process of thinking out for myself.

This, I think, is a good way to teach, in spite of the crudeness of the matter thus offered, for one is apt to conceive an idea with more zest when it first appears to him than he ever will again; and it is zest and sincerity, quite as much as intrinsic worth, that gets the idea across.

My situation, as regards encouragement to productive thought, was altogether fortunate. Professor Adams, in whose department I was, had confidence in me and allowed me to do absolutely as I pleased: I doubt whether there was another teacher in the University so completely his own master. And as I had no ambition or capacity for administrative work there was nothing to prevent my giving myself heartily to the development and imparting of any conception of sociology that might seem good to me. My promotion was not especially rapid—I became an assistant professor in 1899, an associate professor in 1904 and full professor in 1907—but there was not, so far as I know, the slightest opposition or ill will to me or to my subject. Indeed one of the Regents, Levi L. Barbour, a man of real distinction in mind and character, greatly interested at that time in penal reform, was most appreciative both of my work and of the promise of sociology. It was through his exertions, largely, that an instructorship in sociology was formally established in 1895, and that my later promotions were obtained.

I do not know that sociology was at any time objected to as a "radical" subject, but if so it was perhaps to my advantage, in this regard, that I was known to come of conservative antecedents, my father having been the first Dean of the Michigan Law School. I took some pains to counteract a possible conservative bias by living occasionally at social settlements and otherwise undergoing influences supposed to be radical. And certainly in treating such topics as the capitalist class, socialism, the labor movement, class control of the press and the like, I said precisely what seemed to me to be true and was never conscious of the least pressure to do otherwise. I may add, in this connection, that I was among the first at Michigan to expound the theory of evolution to beginning classes and to assume its general truth.

The growth in numbers of the classes in sociology was at

first rather slow: in 1902-3, the ninth year, there were fifty in the course in Principles, while that in Problems—always more popular—had 126. At about this time, however, something—perhaps the publication of *Human Nature and the Social Order* in 1902 had a share in it—brought a considerable accession, for two years later the numbers were 120 and 148. The classes were divided into small sections for quizzing, all of which I did myself, and I was never without a group of able and stimulating graduate students. Many of these have distinguished themselves since as teachers of sociology, or leaders in social work, though none, during the first ten years, took his Doctor's degree at Michigan in the subject. The variety of courses I was able to give was hardly sufficient as a preparation for the doctorate, and the opportunities for a career as a teacher were still very restricted. Our first Doctor was E. A. Hayden, a brilliant and lovable Irishman of somewhat neurotic constitution, who began graduate work at Michigan in 1902 and took his degree in sociology and psychology in 1907, presenting an able dissertation on "The Social Will" which appeared in the monograph series of the *Psychological Review*. He was professor for a time in the Normal School at Cape Girardeau, Mo., and afterwards, until his early death, in the Florida State College for Women at Tallahassee. We turned out no other doctor until after the Great War.

In the fall of 1901 Kenyon L. Butterfield came to the University for graduate work. He was already an ardent student of country life, and, one year later, by the aid of Professor Adams who immediately recognized his personal promise and the importance of his subject, he was appointed Lecturer on Rural Sociology. So far as I know (or Mr. Butterfield, now President of Michigan State College), this was the first use of that term. I do not remember who suggested it, probably Butterfield himself. He left at the end of the year and the course was not revived until some ten years later.

The direction of my studies and, in a measure, the trend of my teaching, during the periods 1902-1909 and 1909-1918, may be inferred from the books published at the end of these periods. During the first I was clarifying and verifying, to my own satisfaction at least, the ideas that appeared in *Social*

Organization. Since the matter in that book on Primary Groups has attracted much interest, it may be worth while to recall that this matter, although it appears early in the book, was the very last part to be conceived and written, not appearing in the earliest draft at all. When I had this draft before me there appeared to be a hole in my exposition which I was impelled to fill up. In the later period I was chiefly occupied with developing those early views regarding struggle and change which I had been brooding over so long into the treatment of *Social Process,* published under that title in 1918 (the year, also, when I was honored with the presidency of the American Sociological Society).

A University teacher has one great advantage over more solitary scholars, as regards the building of a novel structure of thought, in the fact that he may count on an intelligent audience to welcome, confirm or correct his work during the process of production. I always had such an audience, and have no pleasanter recollections than those of discussion with small groups of ardent students. Those were lively times, for instance, in 1902, when E. A. Hayden, Roy M. Sellars, now a famous philosopher, and Lues M. Perez, a brilliant Cuban, were in the seminary group. Two or three years later I note the names of Oswald Boucke, since then the author of several notable books, David Friday, the economist, Carl Parry, another, Arthur Pound, and Hortense Flexner. Between 1910 and 1914 there was a notable group, consisting mostly of young instructors, which included Walton H. Hamilton, W. W. Stuart—both later professors at Amherst—and Warren S. Thompson. And these are only the more outstanding figures in a continuous procession.

My first regular assistant was Harry W. Crane, who began graduate work in the fall of 1909 and remained several years, taking his doctorate in psychology and also serving as chief investigator for the Michigan Eugenics Commission, whose Report to the Legislature in 1915 was mainly his work. He was a man of as devoted scholarship and as fine a moral fibre as I ever knew—now (still, I hope, possessed of these qualities) professor of psychology at the University of North Carolina.

The growth of classes and of the prestige of the subject enabled me to add, beginning with the year 1913-14, a full time instructorship, for which I chose Warren S. Thompson, a graduate student of Columbia working at his Doctor's thesis on Malthusianism and already in a way to become an authority on population. He relieved me of much of the elementary teaching, revived rural sociology and added courses in Social Evolution and Immigration, resigning in 1918 to go into war work at Washington for a time, after which he taught sociology at Cornell Agricultural College until he became population expert for the Scripps Foundation. Roy H. Holmes, who succeeded Thompson, is still with us as assistant professor, giving courses in Rural Sociology, Immigration and Social Evolution, and having immediate administrative charge of the beginning course, which is now given both semesters and enrolls some nine hundred students a year. He has done much to improve the teaching in this course, especially as regards the "thesis" required in it, which we intend to be, for the student, an adventure in social observation and interpretation. Each of the nine hundred is asked to choose for himself a topic regarding which he has some personal knowledge and interest and make a study of it, with the aid of such counsel from his instructor as he cares to have, and with the expectation, which we are careful not to disappoint, that he will get a considerate criticism of his work. Probably the chief thing to be gained from an elementary course is a point of view and a method which the student can apply to the material offered by his own life. At any rate this, I am sure, is what intelligent young people are seeking, and the fact that we help them find it is the main inducement to elect our work. The general expansion of universities following the war was fully shared by Michigan and by its Department of Sociology—recognized as distinct for academic purposes, though still joined, on the administrative side, with Economics and Business Administration. Additional instructors were appointed, and in some cases retained and promoted. Lowell Juillard Carr, formerly on the editorial staff of the *Detroit Free Press,* took his doctorate at Michigan with a thesis in the field of Public Opinion, and after a year's study abroad, chiefly in London with Hobhouse, Malinowski

and others, came back in 1925 as assistant professor. Robert C. Angell, whose thesis was on "The Student Mind," and whose book, *The Campus,* a sociological study of student life at an American university, is about to appear as I write, attained the same rank in 1926. Other recent Doctors are Walter A. Terpenning, 1924, Charles W. Margold, 1925, whose thesis was published under the title *Sex Freedom and Social Control,* Read Bain and Gerald Barnes, 1926, and Roy H. Holmes, 1927.

Particularly notable was the appointment, in 1916, of Arthur Evans Wood to an instructorship with the understanding that he was to develop social work courses and to cooperate in every way practicable with the social workers of the state. Wood, after graduating from Harvard, had taught social science for four years at Reed College, Portland, Oregon, and returned to take graduate work at the University of Pennsylvania, serving also as secretary of the Intercollegiate Division of the National Municipal League. His doctoral dissertation for the Pennsylvania degree, completed while he was teaching at Michigan, was a social survey of Princeton, New Jersey. What his appointment led to I will leave Professor Wood to tell.

THE THEORY OF TRANSPORTATION

II

THE THEORY OF TRANSPORTATION[1]

PREFACE

Having had occasion to study transportation in several of those practical aspects that are demanding attention at the present day, I came to believe that if one was ever to understand this subject he must begin farther back than writers upon it were accustomed to do. I therefore conceived the plan of writing a Theory of Transportation that should unfold the most important of its relations to economic and political life. I also, about the same time, began to be familiar with the writings of the newer school of sociologists, and thought that I found in their analysis of society, particularly in that of Schäffle,[2] a basis upon which to work out my plan.

The present essay, then, is an attempt to put these two things together, to write a theory of transportation from a sociological standpoint.

While many of the matters here treated have been and are the subject of unceasing discussion, others have received but small attention. This is particularly true of the theory of the location of cities, to which I have devoted a chapter. Indeed I think that the analysis of the territorial relations of society offered in chapters ix to xiii brings to view an important field of social research that has been much neglected. Since the work of Kohl, published in 1841, I know of no comprehensive and connected investigation of that branch of demography, or demographic sociology, that treats of the forces and laws

[1] This monograph appeared as *Publications of the American Economic Association,* IX, No. 3 (May, 1894). On the fly leaf of Professor Cooley's own copy is written: "Commenced steady work on this about Christmas '92. Commenced writing it in its present form a few days before Thanksgiving '93, and finished the first draft early in January. Submitted it to the Economic Association about May 1, I think. Received the first printed copy Sept. 1, '94. It was accepted by the faculty of the University as a Doctor's Thesis in June '94." The monograph is regarded as an early study in what is now called human ecology. While maintaining his interest in communication, from 1894 on, Professor Cooley turned to the study of psychical rather than physical processes, because of his belief that in such psychical processes lay the social reality.

[2] *Bau und Leben des socialen Körpers,* vol. i.

that determine the territorial distribution of persons and wealth.[1] Little is understood concerning the theory of settlement, the theory of the location of towns and cities, or the laws that determine their size, the density of their population and their internal structure.

Certainly these inquiries have been neglected in the United States. Yet we have here the amplest possible material for working out this branch of science; ampler than has ever existed elsewhere. Within the memory of living men, for the most part, our country has been settled and our towns and cities have grown up,—not without the action of laws, which remain as yet unformulated.

As to the practical bearing of such investigations, I hope to have shown that an intelligent solution of the railway question, at least, must rest upon a study of territorial demography. And I think that this study is equally important to the student of economic and social life in many other aspects.

Of course I do not mean to imply that much has not already been done in the line of this essay. There are at least four important works largely devoted to the general theory of transportation, as distinguished from such particular branches of it as the theory of railway rates. These are the following: Kohl, *Die Verkehr und die Ansiedelungen der Menschen in ihrer Abhängigkeit von der Gestaltung der Erdoberfläche;*[2] Roscher, *Nationalökonomik des Handels;* Sax, *Die Verkehrsmittel in Volks- und Staatswirthschaft;* Foville, *La Transformation des Moyens de Transport et ses Conséquences Economiques et Sociales.*

I need not say that economic literature, and particularly that of America, is rich in studies of railroad and water transportation and of the problem of their public regulation. Whatever merit this paper may have consists in an attempt to look at the matter from a slightly different point of view.

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[1] A good deal is now being done in this field by men who approach it from the side of geography. The most important work seems to be that of Professor Ratzel, "Anthropogeographie" (Part 1, 1882, Part 2, 1891). The same author has more recently published "Die politische Geographie der Vereinigten Staaten" (1893).

[2] This important work did not come into my hands until after the present paper was written.

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I. MECHANICAL AND GEOMETRICAL NOTIONS

We think of transportation as a movement of things—masses of any sort—from one place to another. Anything answering this description comes under the idea in its most general form. If we add to this a conception underlying all action directed to an end, namely, that its excellence consists in accomplishing the end with the least possible expenditure of time and force, we have the most general basis possible for the judgment of transportation from a mechanical standpoint. From this standpoint that transportation is best which accomplishes the movement of things with the least force and in the shortest time. Speed, then, is one fundamental test, while economy of force, translated in the light of actual conditions, means cheapness. Speed and cheapness never cease in the most complex development of transportation to be the simplest tests of its efficiency.

We may arrive at some notions not without importance if we consider in their simplest form the geometrical conditions of transportation. Let us suppose a large country, which, instead of being variegated with seas, mountains and rivers, is all level and parcelled into farms of uniform size. Suppose now the need to arise for a universal system of transportation that should connect every farm with every other. What form would that system take, what would be the plan of the roads? In building roads there is of course always a tendency to take the shortest route. But the literal and absolute application of this principle would require the building of roads from every point to every other; in other words the turning into roads of the whole surface of the earth, with enormous labor and the

complete destruction of the farms. It is clear that some sort of a compromise must be made between the principle that calls for directness and the principle that calls for economy of labor and space. To show just what plan of roads would result from this compromise would involve a rather complex mathematical problem; but without going into this it is perhaps sufficiently clear that the solution must be found in a complexly branched system. Each neighborhood would collect what it has to send at some central point whence the movement would proceed by a common road. These central points, again, would stand in the same relation to one another as the farms in a neighborhood; the roads from them would concentrate at other points. And so on until, finally, we should have all the longest movements traversing a few great roads of which a number of the most important would meet at the center of the country. The general effect would be one of complicated radiation, primary, secondary and so on.[1]

Although this hypothetical case is never realized, yet there is some approach to it in large agricultural areas, as for instance the Mississippi valley in the United States. If one calls to mind how the country roads radiate in all directions from the

[1] It is apparent that there is a general analogy between roads and the arteries of a living body, the veins of a leaf, the trunk, boughs and twigs of a tree, and other channels of biological communication. Some similarities of function and structure will be found worked out in detail by Spencer in his *Sociology,* vol. i, chapter 8. He does not, however, consider the question of geometrical arrangement.

The arrangement of roads spoken of in the text would not, as a matter of fact, be at all like that of the veins of a leaf, or of arteries or boughs. Although these biological systems branch at many points they have, I believe, but one center, but one destination for the movements inward from the circumference—as the heart in the circulatory system. The other parts do not communicate with one another directly, but through the heart. Hence these systems are simple and the only object of their arrangement is ready access to the one center. But social circulation is highly complex and has thousands of centers variously subordinated to one another. Every village is the center of a movement of its own—a little heart by itself. Towns of the second rank do not communicate with one another solely through some great city to which they are tributary; they also communicate directly. So with every part of the system. The result is not a one-centered but a many-centered arrangement, which may yet have a certain unity arising from the subordination of small centers to large ones.

Compare Jenks, "Road Legislation for the American State," p. 49 *et seq.* [In *Publications of the American Economic Association,* vol. iv.]

country towns and then, looking at the map, notices how the railways upon which these towns are situated concentrate at certain points, and further how the whole system converges at a few central points like Chicago, he will perceive a striking illustration of the operation of the principle in question. In other parts of the country, where mountains or lakes interfere, the radial arrangement is obscured or disappears entirely.

The arrangement of streets in cities offers interesting material for the study of the geometrical relations of transportation. We have here two leading principles at work in determining the plan of streets,—the branched or radial principle, which is the most convenient from the point of view of transportation, and the rectangular arrangement in blocks, which is the most convenient from the point of view of architecture, building, and the measurement and allotment of land. There are few cities that do not show traces of both principles. The branched plan is seldom carried out in detail, in the arrangement of minor streets, but it often clearly appears in the general plan of the city, in the convergence of important streets at one or more centers.

There is a marked difference in plan between old cities of slow and natural growth and the quickly made cities of our western states. In the former the radial principle predominates, in the latter the rectangular. Thus the older part of Boston, whose streets are said to have been laid out by the cows, offers an almost perfect example of radial arrangement. It is unjust to the cows to imagine that these streets have no plan; they have one, but it is not the one to which we are most accustomed. In Chicago, on the other hand, the only trace of radial arrangement is found in a few streets and avenues that cut diagonally through the otherwise rectangular plan. These avenues seem to mark the site of country roads that existed before the city, as it now is, was laid out. European cities show in nearly all cases a decidedly radial plan of streets. In some it is obscured by various causes, as, for example, a hilly site, a river traversing the city in an irregular manner, the existence of several centers instead of one. But even in those cases where a first glance seems to show only confusion, closer scrutiny reveals a marked convergence toward one or more

central points. Among great capitals Paris and Vienna offer in their general plans excellent illustrations of radial arrangement.

A like difference in plan can usually be seen where old cities have been enlarged by the building of modern suburbs. The newer quarters can almost always be distinguished from the old merely by looking at the map and noting where an irregular branched arrangement prevails and where, on the other hand, there are square corners and regular blocks. Newly built suburbs of European cities are usually as rectangular as Chicago.

The cause for this variety in arrangement, this difference between old cities and new as to the degree in which the geometrical requirements of transportation are met, is not far to seek. Where growth is gradual and arrangement unpremeditated, where paths gradually become roads and roads after a long course of time develop into city streets, where, in other words, the city is laid out without regard to the requirements of building and convenient allotment, the natural arrangement prevails. On the other hand, when the arrangement is planned beforehand the rectangular arrangement is chosen as the more convenient. The city of Washington offers an excellent example of the deliberate and scientific reconciliation of the two ideas. To a plan generally rectangular is added a system of diagonal avenues having their principal point of convergence at the national Capitol.[1]

The most general and permanent classification of the mechanism of transportation is that of way, vehicle, and motive force. These elements are very generally present in all transportation, though strictly speaking the last is the only one absolutely essential. Movement cannot be conceived as taking place without the application of force. But if we mean by way a specialized path over which the resistance to movement is artificially diminished, it is clear that it is not an indispensable element in transportation. Maritime commerce, for example, can hardly be said to make use of a way in this sense,

[1] It is not unlikely that the convenience with which radial streets may be swept by cannon planted at their center was considered in the planning of Washington. But not all of the diagonal streets lead to the Capitol.

except as it uses artificial channels and harbors. So with the movement of caravans across the desert. On the other hand, the way may take such a form as entirely to absorb the vehicle and leave the latter no separate existence. Thus an aqueduct, or a pipe-line for the conveyance of oil, requires no distinct vehicle whatever.

The Way grows out of the necessary relation of transportation to the surface of the earth, and by the varying nature of that surface its character at any particular time and the course of its development are very largely determined. From this underlying relation comes the close connection between the study of transportation and that of physical geography. One cannot hope to understand transportation without at the same time understanding the geographical facts that condition it. And as these geographical facts are permanent, relatively at least to the social facts which the study of transportation must also embrace, a theory of their influence forms the groundwork of the theory of transportation.

This geographical relation suggests a third general test of the efficiency of transportation in addition to the tests of speed and economy already mentioned. This is the degree of independence of natural features attained in the location of the way. The matter is one not only of quicker and more economical movement, but of making speed and economy available in new places. A great part of the mechanical progress of transportation is in extending it to portions of the earth's surface before comparatively inaccessible.

Vehicle and Motive Force may be looked upon as the instruments by which force, drawn from one or other of those primary sources to which man has access, is organized and made to serve the uses of transportation. In the earlier development of conveyance the force employed is that supplied by nature in some immediate and obvious form—man's own physical strength, the strength of beasts of burden, the force of tides, currents and winds. Progress, from this point of view, consists chiefly in the employment of greater forces and in utilizing them more economically. Especially does progress consist in the economy of the forces of man himself and in an increasing use of other agents. On this side the study of

transportation is closely connected with that of technical development in general.

The immediate object of transportation with reference to the physical features of the earth's surface is, then, to overcome natural obstacles by making use of natural forces. These obstacles and forces, as its deepest-seated and most permanent conditions, form a basis for the various kinds of conveyance actually met with in history. The division into land and water movement, and the classification of obstacles by land and water are fundamental to the study of the subject, while the investigation of the various forces that have been utilized and the manner of their utilization in overcoming obstacles, is equivalent to studying the mechanical development of transportation.

In the three chapters following I propose to offer the outline of a theory of this mechanical development.

II. THE RELATION OF LAND TRANSPORTATION TO PHYSICAL CONDITIONS

In speaking of the obstacles to movement, we have to remember that the question whether any particular feature is an obstacle or not is purely a relative one. In going down hill, a level place in the road is an obstacle; so is a stretch of still water to a boat floating with the current. An obstacle is simply something that offers more resistance to movement than other parts of the surface that are compared with it. In this sense the chief obstacles to movement by land are the following:

Mountains, mountain ranges, hills, and all inequalities of the surface. Generally speaking, the higher, the steeper, the sharper at their summits, and the more extensive and continuous these mountains, hills and inequalities are, the more formidable obstacles they make.

Forests, thickets, and other vegetable growth large enough to hinder movement.

Marshes, bogs, mud, or other softening of the surface by water, whether permanent or existing only at seasons of rain or inundation: also, sandy or other yielding surfaces not caused by water.

Rivers, streams, lakes, estuaries, etc.

Unfavorable climate, extreme heat or cold, dangerous storms, lack of water, of pasturage, or of other supplies.

Looking at the same facts from another point of view, we may class many natural features as facilities for transportation. They rank as such, of course, relatively to the obstacles enumerated. Thus:

A dry surface and climate—provided the dryness of the surface does not go so far as to make a sandy desert, nor the dryness of the climate become so great as to cut off supplies of food and water. A dry climate is favorable to transportation in its early development, not only because of freedom from mud and marshes, but also—and still more—for the following indirect results: It diminishes the number and size of streams; it hinders the formation of gullies and other lesser and sharper inequalities of the surface due to the action of the water; it renders impossible the growth of large vegetation.

Steppes and other treeless regions, however caused, and whether level or not.

In northern regions the formation of ice and snow facilitates movement.

These natural obstacles and these natural facilities are the basis of the development of roads in respect both to construction and to location and direction.

Herbert Spencer, in his *Descriptive Sociology,* presents, among a great number of important and well arranged facts, some facts, some interesting details respecting road-making among savage and barbarous peoples.[1] We see here that, even under the most primitive conditions, the existence of streams, bogs, mountains and thickets leads to the devising and construction of artificial ways. We have modern appliances represented by their prototypes. Of bridges, the two chief types —the girder and the suspended bridge—are represented, the former by the single log felled across the stream, the latter by a great variety of swinging devices constructed of bamboos, creeping plants, etc. Some of these latter are of surprising length. So, in northern India, and doubtless elsewhere, bridges are built on the balanced or cantilever principle.[2] Swamps are

[1] No. 5, p. 49; no. 4, p. 39; no. 6, p. 46.

[2] Powell, *Punjab Manufactures,* p. 333.

passed at first by paths made of branches strewn upon the surface, or by logs laid either end to end or crosswise; later, or perhaps in more open or stony regions, rude stone causeways are employed; openings are cut through the jungle, and the convenience of zigzag paths in surmounting steep mountain sides is well understood.

In the location of ways we see the same intimate dependence upon natural conditions. Mountain passes, for example, must always be important elements in land transportation. There are certain passes in Central Asia [1] which have always exercised a controlling influence in that quarter, from the remote period when the Asiatic land trade was the most important commerce in the world down to the present time. So, to take a recent instance, the Allegheny range did much to determine the course of railway development in the United States, particularly in delaying the building of lines west of that range and in causing the earliest route to take a northerly and comparatively indirect route westward. And roads of all kinds, in all periods, have shown a marked tendency to follow the valleys of rivers and streams, as offering the best natural pathway among the inequalities of the surface.

We may find in natural conditions a reason for the early and splendid development of land commerce in Asia. If one considers the obstacles and facilities above enumerated, he must perceive that a dry climate and a treeless surface, not entirely destitute of pasturage and water, are conditions peculiarly favorable. These conditions exist in a remarkable degree over a great part of western Asia. The whole region, excepting a few fertile river valleys, is arid, and, therefore, treeless. Yet it is by no means uninhabitable. Though there are vast areas of absolute desert, there are areas still vaster that afford sufficient water and pasturage to supply the small needs of the camel, or even to support horses and oxen. These steppes, then, or arid pasture land, and the borders of the desert, were the highways of a primitive commerce, employed for this purpose earlier, apparently, than the sea, and certainly exhibiting a development of land conveyance greater than any

[1] As that leading from Bokhara eastward into the Gobi region.

that existed elsewhere until recent times.[1] The natural aptitude of the surface for transportation appears to be one of the reasons why this region of the globe was the seat of the earliest civilizations.

It is not proposed to trace the technical history of roads from these beginnings, or to show in detail the manner in which their location and construction have been determined by natural conditions. This important and little-explored field of study is much too wide for this essay; what I shall offer in this connection will be based rather upon an analysis of motive forces.

If we look at land transportation from the point of view of the natural forces utilized in overcoming natural obstacles we may perceive certain steps in development succeeding one another in a natural order that would probably be found to correspond to the historical order did history go back far enough to reveal the latter. The first force employed is the physical strength of man himself, the second is the physical strength of the beasts that he subjects to his service. This is first utilized directly by placing burdens on the back, and later, indirectly, by means of wheeled or sliding vehicles. And finally we have the use of the chemical forces stored up in coal and changed over into mechanical power through the mediation of steam, electricity, etc. The successive use of these various forces indicates in a general way the mechanical progress of transportation.

An instance of the general use of human strength for the purposes of land transportation is that afforded by the American continent at the time of its discovery by Europeans. The natives were for the most part quite ignorant of the use of beasts of burden; indeed, the fauna of the continent was almost without species suitable for such a use. The Peruvians alone, it appears, possessed a burden-bearing animal—the llama, a sort of dwarf camel, hardly larger than a sheep.

[1] Heeren's well-known work, *Researches into the Politics, Intercourse and Trade of Ancient Nations,* is still, I believe, the most complete and satisfactory treatment of ancient commerce and transportation. It is certainly the most interesting that I have been able to find. He holds [Introduction] that the Asiatic land trade remained the most important commerce in the world down to the discovery of America. References are to the translation published at Oxford in 1833.

The best example of a high development in this sort of transportation is that of ancient Mexico.[1] Mexico was an empire not only populous, powerful and of wide extent, but distinctly commercial in character, much more so, certainly, than Peru. This fact is the more notable as it is not to be explained by the existence of any great amount of transportation by water. There was, indeed, a very active movement of small craft on the lake of Mexico and about the canals of the important cities built upon its shore. Fuel and building materials for the use of the capital were brought in this way, as well as most of its food supply. But there was also an extensive land commerce, the most extensive, probably, that has ever been carried on without the use of beasts of burden or the more modern appliances that have partly superseded them. The most primitive form of land transportation is here seen in its highest historical development. The Mexican merchants traveled about the country with large numbers of porters who formed a separate class or guild and served as soldiers when occasion demanded that the interests of trade be advanced by force. Their load was fifty or sixty pounds and they traveled about fifteen miles a day. As all readers of Prescott will remember, the lagoons and low ground about the city of Mexico were crossed by long causeways. These appear to have been the beginning of substantial foot roads that connected the various provinces of the empire with the capital. These main roads were repaired yearly and were provided with many wooden bridges and some stone ones. The lesser roads were probably mere paths with few bridges. The greatest attainment in the matter of speed was that of the imperial post, which is thus described by Clavigero:[2] ". . . there were upon all the highways of the kingdom certain little towers about six miles distant from each other, where carriers were always waiting in readiness to set out with despatches. As soon as the first courier was sent off he ran as swiftly as he could to the first stage or little tower, where he communicated to another his intelligence, and delivered to him the paintings which

[1] See the extracts from various writers collected in *Descriptive Sociology*, no. 2, pp. 54, 60, etc.

[2] *History*, bk. vii, chap. 12.

represented the news . . . The second courier posted without delay to the next stage or little tower, and thus by a continuous and uninterrupted speed of conveyance, intelligence was carried so rapidly from place to place, that sometimes, according to the affirmations made by several writers, it reached the distance of three hundred miles in one day." Commodities as well as news were sometimes carried in this way, as fresh fish, brought from the gulf of Mexico for the emperor's table.

There was a similar but even more elaborate postal system in Peru;[1] indeed there are also examples of a foot post of this general type in the early history of the nations of the eastern hemisphere.[2]

The point chiefly to be noted here is that the lack of natural species suitable to burden-bearing was an unfavorable condition of the greatest moment in the development of transportation among the primitive races of what we call the new world. No one can say whether their history might not have been quite different had nature supplied them with servants as well suited to the western country as the camel or the horse was to the eastern.

A second chapter in the mechanical development of land transportation opens with the subjugation and use of the beasts of burden. It describes a state intermediate between that just spoken of and the one that comes in with the general use of wheeled vehicles. The use of pack animals means, generally speaking, a great advance in transportation as measured by efficiency in the matters of speed, economy of force or cheapness, and mastery of natural obstacles. Their possession is a favoring circumstance which, though not of itself sufficient to raise a people from savagery, is yet an incalculable advantage in the development of transportation and of the other forms of social progress dependent upon it. The fact that the Mexicans did so well without this advantage, and even arrived at a considerable land commerce, is a phenomenon as unique as it is interesting.

The natural forces that are now exploited are those of

[1] *Descriptive Sociology,* no. 2, p. 54.

[2] Marco Polo's *Travels,* Yule's ed. i, 421-424; Kaempfer's *History of Japan,* bk. v, chap. 4.

certain beasts of burden—the camel, the horse, the ass, the ox, the elephant, the reindeer, etc.—animals which were the servants of man in the eastern hemisphere for untold ages before the opening of history. They represent a natural or biological specialization of energy with particular reference to the overcoming of natural obstacles to movement. Thus the camel, which occupies the most conspicuous and honorable position of all in the primitive development of land transportation; has peculiar adaptations to that part of the earth's surface where trade first arose. He is supposed to have been a native of the deserts of southwestern Asia, where he doubtless acquired these adaptations by the unremitting operation of the principle of the survival of the fittest. He has, for example, certain pouches in his stomach in which a reserve supply of water is stored, one or more fatty humps on his back which serve in some measure as a reservoir of food, a broad, elastic pad on the foot to prevent his sinking in the sand, and nostrils that he can close at will against the sandstorm. He is also a frugal animal, supporting himself at need on the dry vegetation of the desert. By virtue of these various special capacities he serves as a means of conveyance across long reaches of absolute desert, and can readily go three days at a time under burden without water, maintaining his ordinary speed of twenty-five miles a day.

The importance of the camel, regarded as a motive force for transportation, was great indeed during the rise of the earliest civilizations. He and he alone made his native plains and deserts the highway of international commerce, and their borders the earliest seat of commercial civilization. It is obvious, without going into the subject in detail, that the other animals mentioned have also forces adapted in a peculiar manner to the surmounting of natural obstacles. The camel may serve as example, since during the period when the sort of transportation under discussion was more important than any other he was the chief means by which it was carried on.

Following the division already suggested we may say that the use of wheeled vehicles as a means of economizing the strength of domestic animals, changing them from beasts of burden to beasts of draft, marks another period in the me-

chanical development of transportation. This change took place on the longer and more important routes only in modern times, and in many cases was never accomplished; carriage upon pack-saddles either continuing down to the present time, as on many important lines of trade in Asia, or ceasing only upon the construction of railways. The reason for this tardiness is not to be found in the backwardness of invention or mechanical skill, as might be supposed. The ancient Egyptians were excellent wheelwrights and constructed war chariots with such skill and nicety that although strong enough for the purposes of war they were so light as easily to be carried by a single man.[1] The difficulty lay rather in the construction of roads, in the great labor required to build over mountain ranges and other natural impediments a track wide and level enough for the convenient use of wheeled vehicles. Given a suitable road and the wheeled vehicle effects a great economy of energy; without such a road it is worse than useless. For this reason, apparently, carts and wagons came into use for local conveyance in level countries long before they were employed for those longer movements which must in most cases traverse mountain ranges and other formidable obstacles. Egypt, India, China, have known the use of carts from great antiquity;[2] while the ancient Scythians or Tartars pitched their tents upon ponderous wagons, one of which sometimes required over twenty oxen to draw it.[3] But the use of the pack-saddle was universal upon the longer routes of land transportation from the earliest times down to a period, beginning in the seventeenth century and continuing into the nineteenth, during which the nations of western Europe developed a system of good roads. This building of good roads made possible the rapid improvement in vehicles and the rest of the technique of transportation which accompanied and followed it.

The fourth or modern period need not be dwelt upon at length in this connection. Its fundamental characteristic is

[1] Wilkinson's *Manners and Customs of the Ancient Egyptians,* Birch's ed. i, 227 *et seq.*

[2] Compare Wilkinson's *Ancient Egyptians,* i, 249.

[3] Herodotus, bk. iv, chap. 46, Rawlinson's ed.; Marco Polo's *Travels,* Yule's ed. i., 245 *et seq.*

the employment of a new natural force, the chemical energy stored up by the sun in coal. The situation of coal mines now enters among the important natural factors in the development of transportation. Mountain ranges and rivers have not lost their significance as natural obstacles, but that significance is greatly diminished. Speed, economy and independence of the irregularities of the earth's surface have within a brief period made such progress as to cause all previous attainment to appear insignificant. Those natural obstacles and forces that once dominated all movement by land are now of secondary importance.

III. WATER CARRIAGE AS RELATED TO PHYSICAL CONDITIONS

Although the water presents none of those permanent inequalities of surface that are such important elements in all movement by land, it yet offers a natural diversity which results in obstacles and facilities of another sort. Among conditions which may seriously impede movement by water are the following:

Currents, whether caused by the regular flow of rivers, by tides, or by the movements of the deep sea; winds, waves, rocks, shallows, isthmuses, islands, etc.; the lack of food, water and other supplies at sea, and the difficulty of guidance.

There is a distinction between these obstacles and those by land in the fact that while the latter remain obstacles at all stages of development, although their importance may greatly diminish, the former are in great part natural forces—winds and currents—which may be converted into facilities under favorable circumstances. Rocks, shallows and other projections of the land into the water always, however, remain serious hindrances to water movement, except in so far as they may help to form harbors. The dredging of rivers and harbor channels, the cutting of canals across isthmuses and the like, the placing of beacons, light-houses and buoys to mark the site of rocks, have always made an important part of the technique of water transportation. So waves, considered apart from the winds that cause them, are a distinctly unfavor-

able condition, while the fact that the sea cannot be depended on for food, drinking water, or fuel, now as always imposes conditions and limitations upon conveyance by water. Winds and currents, on the other hand, serve as motive forces as well as obstacles, and the technical progress of water transportation is indicated in some measure by the skill with which they are utilized.

In marking off steps in the development of water transportation the following is a convenient division: First, the period of river transportation; second, that of the navigation of coasts; third, of the open sea by sailing vessels; fourth, the modern period of steam propulsion. These correspond in a general way to a different utilization of natural forces. Thus while navigation was confined to rivers, men made use chiefly of currents, river or tidal, and of their own strength put forth by means of paddles and the like, though the use of sails was not unknown.[1] When they ventured out along the sea-coast and traversed pretty freely such enclosed waters as the Mediterranean Sea, sailing became very important, but the skill attained was not such as to enable the navigator to sail to windward and thus turn the wind against itself. Oars retained their importance, and sails were set only when the wind was in a favorable direction. But with voyaging on the high seas came the development of scientific navigation and the abandonment of human strength as a direct means of propulsion. And in the latest stage we have the utilization of the energy confined in coal.

As an open, pastoral country offers the most favorable natural conditions for primitive land conveyance, so a river whose current is not too swift nor broken by many rapids or waterfalls favors the beginnings of water transportation. Such early movements of trade as were not in pastoral countries appear to have been determined by the course of rivers. Thus Egypt and Babylonia were on great rivers; so were the civilizations of India, while the magnificent rivers of China probably presented until the present century the spectacle of the greatest river traffic in the world. It would be vain, I think,

[1] For primitive boats see the various volumes of *Descriptive Sociology* under "implements."

to look for an early example of any considerable progress in civilization in an inland, forest-bearing region off the course of large rivers. Such regions, which occupy a great part of the earth's surface, must await the development of modern means of land movement.

Rafts and similar appliances for floating loads downward with the current were without doubt the first vehicles of water transportation. Where currents are very swift or where, as in the case of lumber, floating is peculiarly convenient, this sort of transportation long remains important. The building of canoes—dug out from logs by fire or tools, or formed of bark or skins stretched over a frame—is a great advance and implies the ability to make way against the current. To these succeed larger river boats such as have been in use for thousands of years on the Nile, the Ganges, and the Chinese rivers.[1]

At the points where rivers join the sea there are conditions which encourage in an especial manner the progress of water conveyance. In the estuaries and often for a long distance up the river there are commonly currents each way caused by the tides. Thus commodities may be moved both ways by the current alone. The mouths of rivers also offer the natural starting points whence river trade gradually spreads out and becomes coasting trade. These estuaries form a natural school for instruction in maritime arts and maritime enterprise, a school whence men are graduated to the navigation of larger waters.

It is clear that the existence of a great inland sea such as the Mediterranean, with many islands and harbors and not particularly stormy, offers natural conditions excellently adapted to the early growth of water transportation. As a matter of fact this sea was the principal scene of the movements of vessels from the earliest times to the discovery of America.

Another favorable natural condition, and one that had great influence upon early trade, is the existence of periodical winds, especially those winds that blow one way at one season and

[1] See Wilkinson's *Manners and Customs of the Ancient Egyptians,* ii, 205 *et seq.;* Gray's *China,* ii, chap. xxix.

the opposite way at another. The monsoons, which have this peculiarity, offer advantages much like those of tidal currents near the mouths of rivers. If, as seems almost certain, the earliest ships that ever braved the ocean were those that traded along the Asiatic coast from the mouth of the Indus to the ports of the Persian gulf,[1] one reason for this priority is to be found in the monsoons that blow along that coast.

That mastery over natural conditions implied in the free navigation of the open sea required larger and better built vessels both to resist the fiercer storms of the ocean and to carry ampler supplies of food and water; but the more difficult requirements were, first, to find some force that should enable vessels to make way against adverse winds on a course where there were no harbors, and, second, some means of guidance across the trackless water when the stars were obscured. The introduction of the compass and the improvement of the art of sailing seem the two indispensable technical conditions to the rise of maritime as distinguished from inland and coasting transportation.

The final period in the progress of water transportation sees the casting aside of winds and currents as the chief means of propulsion and the introduction of an entirely new force that renders movement by water, both in direction and in its times and seasons, nearly independent of natural obstacles. Winds, waves and currents are overcome, or, if favorable, accepted as minor aids.

IV. GENERAL OBSERVATIONS ON THE RELATION OF TRANSPORTATION TO NATURAL CONDITIONS

Throughout this struggle of the agents of transportation to overcome natural obstacles and make the best use of natural forces, the general result has been a continuous if not steady advance in the fundamental mechanical requirements—speed, economy and independence of natural obstacles. Fully to develop the ideas above suggested would be to write the technical history of transportation. Every change in the construction of

[1] Heeren's *Researches,* Introduction, xciii *et seq.;* Duncker, *History of Antiquity,* iv, 15; Yeats, *Growth and Vicissitudes of Commerce,* p. 18.

the way, from the primitive track through the jungle to the most elaborate of modern systems of railway construction, has its definite relation to physical conditions and arises out of the interaction between these conditions and the need for various sorts of transportation. So with the different motive forces and all the technique of their use, from the direct application of human strength, which characterizes the beginnings both of land and water transport, to the steam engine which unites them again in their latest attainment; and so with all that relates to vehicles.

A fact characteristic of all this development is that progress in one sort of transportation depends in some measure upon that in others; that there is a general interdependence. The construction of wheels, as we have seen, was well known in antiquity, but they did not come into general use for land transportation until modern times, and then only in certain countries; the use of wheels had to await better roads. So in railways, the roads are fitted to the vehicle, the vehicle to the roads, and both to the motive power. No one of these can develop independently. Different kinds of land transportation depend upon one another; the traffic of city streets and country roads could not be maintained without railroads, nor railroads without it. In a less but very marked degree, land and water transport are mutually dependent. Steamship conveyance would probably have amounted to little without the contemporary development of railroads, and railroad conveyance certainly could not be what it is without steamships.

Another fact, familiar in experience and characteristic of the whole progress of transportation, is that the newer and better method does not entirely supplant the old, but relegates it to a certain limited field. Speaking somewhat broadly, all the varieties of transportation that ever flourished may still be found at the present day. Human strength, both on land and water, still serves very important purposes of conveyance; porters, row-boats, canoes and the like are not, and probably never will be, dispensed with. So with sailing, in all stages of its development, from the single square sail of woven rushes to the full-rigged ship. Carriage on the backs of beasts of burden

is still much in use, and transportation on common roads in wagons and the like is as important in its way as that of railroads. The case is analogous to the familiar fact of biology that numerous stages and types of development, from the one-celled animal or plant up to the highest forms, are represented by surviving species.

Among the permanent differences between the functions of land and water carriage, an important one is that which arises from the fact that men, speaking generally, do not live upon the water; it can support no permanent population upon its surface. Water transportation is therefore always a means of connecting land with land. There is on the water none of that peculiar radial development of local transportation that is so marked upon land. Moreover, since as a rule no permanent roads can be made upon the water, there can be no marked tendency to take indirect routes simply because they have already been used. Another difference that remains constant throughout the history of transportation is that movement by water is, from a purely mechanical point of view, always the more economical of the two. That is to say, leaving aside the questions of speed or convenience, the movement of a given weight or bulk for a given distance has always required less force by water than by land. In other words, whenever there has been a choice between the two, water transportation has been, as it still is, the cheaper. The land offers far greater resistance to movement. Its rough and refractory surface must be subdued at great expense. If at any period land movement has had precedence it must have been because it was swifter, or because waterways were not at hand, or for some other advantage that prevailed over its greater expense of force.

The question whether land or water transport was the more important at various epochs is difficult or impossible to answer, not only because the facts are somewhat obscure, but still more because there is no simple test of relative importance. Thus land transportation might be the swifter and carry the greater value of goods while water movement was cheaper and carried the greater bulk. Moreover the real, that is, the social effi-

ciency of transportation, as distinguished from the mechanical, is relative to social conditions and not easily subject to measurement.

The weight of facts seems to show that river transportation and land carriage upon camels and other beasts were the earliest means of international trade, and that maritime commerce, even along the coasts, did not arise until a much later period. For the belief that caravan commerce arose before the coasting trade the chief grounds of probability are the relatively advanced condition of the arts implied in shipbuilding, the very favorable conditions offered for the development of international communication by the migratory life of pastoral nations, and other considerations of a similar character.[1] History does not answer the question, since its very dawn saw the areas separating the civilizations then existing, whether waters or arid plains, traversed by the vehicles of transportation—the gulfs, seas and rivers by vessels, the deserts and steppes by caravans of freighted camels.

The caravan movement of the east continued to rival in importance the movement by water until the discovery of America; and if we regard the value of the commodities carried it was up to this time the more important of the two. The discovery of America and of the passage to India around the Cape made maritime transportation the chief agent of international communication. From this time down to the present century trade by sea remained very much in the ascendant and land movement was quite subordinate. Readers of Macaulay[2] or of Smiles[3] will remember how pitiful was the condition of inland ways in England even in the eighteenth century. The most striking feature of the present development of transportation, as regards a comparison between land and water, is the surprising relative increase of the land movement.

Canals, which have not been specially mentioned, may be regarded as a branch either of land or water transport as is found most convenient. Their greatest historical importance

[1] Heeren's *Researches,* Introduction. Professor Robertson Smith is perhaps the latest and best authority on all that relates to the pastoral nations of the east.

[2] *History of England,* i, chap. iii.

[3] *Lives of the Engineers,* part iii.

was during the period just previous to the rise of railways. As a step in the overcoming of natural obstacles they serve to extend inland the cheapness of water movement, or they shorten old water routes and create new ones by cutting through isthmuses or making a passage for vessels around rapids and through shallows.

V. TRANSPORTATION AND ORGANIZED SOCIETY—GENERAL

The character of transportation as a whole and in detail, at any particular time and throughout its history, is altogether determined by its inter-relations with physical and social forces and conditions. To understand transportation means simply to analyze these inter-relations. So far, attention has been fixed as much as possible on the simpler and more obvious conditions, the physical. We now approach the more complex question of the social relations of transportation.

The need for the movement of things and persons underlies every sort of social organization, every institution whatever. It is equally necessary to that economic organization which supplies society with food and other material goods, and to those psychical organizations, the church, education, research and the like, which, though ideal in their aims, require material instruments. The transfer of books, of scientific instruments and, above all, of men charged with multifarious social functions, is as necessary to society in its way as the transfer of grosser material substances. There can be no adequate theory of transportation which has regard only to some one aspect of its social function, as the economic aspect. That is not the only aspect, nor can one truly say that it is more important than the others. All are co-ordinate, equally indispensable to social progress.

Precisely because transportation underlies social development it is in turn determined by that development. It is a tool of the economic, the political, the military organizations, and the character of the tool varies with their needs. The most permanent conditions of its progress are the natural obstacles it has to overcome and the natural forces it employs; but even these in their practical bearings are relative to social develop-

ment. The art of scientific sailing converts a contrary wind from an obstacle into an assisting force. When men discover how to utilize coal through steam and the steam-engine, it is as if there were a new and ample creation of natural power. The natural forces were always there, but they exist for man only as they are discovered and used by art. The mechanical arts, again, do not advance in an accidental manner, but are intimately associated with economic and political conditions as well as with the progress of physical science. We have the railroad not only because of the ingenuity of men like Stephenson, but because the great economic need of the time was back of that ingenuity urging it on. The chief characteristic of the economic revolution begun in the latter part of the previous century, was industrial concentration and specialization. These could not go far without better means of land movement, and the canals first and then the railroads supplied that means. The railroad is inseparably bound up with the other changes of the time, in part their cause, in part their effect.

What, in general, is the social function of transportation?

Sociologically considered it is a means to the physical organization of society. Development or evolution, the organization of social forces, implies unification of aim, specialization of activities in view of a common purpose, a growing interdependence among the parts of society. Such organization, such extension of relations, involves a mechanism through which the relations can exist and make themselves felt. This mechanism is Communication in the widest sense of that word; communication of ideas and of physical commodities, between one time and another and one place and another. These are the threads that hold society together; upon them all unity depends. And transportation, the means of material communication between one place and another, is one of the strongest and most conspicuous of these threads.

Following this conception we may analyze communication or the mechanism of social organization as follows:

The mechanism of material communication:

Place communication—transportation.

Time communication—storage and the like.

The mechanism of psychical communication:

Place communication—gesture, speech, writing, printing, telegraphs, mails, etc.

Time communication—writing and printing regarded as means for recording and preserving thought for considerable periods of time; custom, imitation and heredity as conservative agents.

However imperfect this analysis may be it shows sufficiently well what is here held to be the part played by transportation in the social mechanism as a whole. It is a universal organizing machinery, variously specialized to suit various sorts of organization. I shall attempt to throw some light on these more special relations in the succeeding chapters.

It follows from the intricacy of these relations, from the fact that transportation is but one pigment of the social picture, that the test of its efficiency is a variable one. The only perfectly general criterion is that it is efficient in proportion as it furthers the actual type of social development. This criterion continually means more and more as progress goes on and conditions become more complex. At bottom are the mechanical tests stated in the first chapter—that transportation is efficient in proportion as it has speed, cheapness or economy of force, and independence of natural obstacles. Taking the social point of view, security becomes a very important and ever present requirement,—security to the persons and things transported from all loss or injury whatever. The means, very highly developed, for meeting this requirement are seen in all those complicated modern arrangements that aim not only at safety but at obviating all the smallest inconveniences of travel and of the movement of goods. To these general tests each variety and stage of social progress adds appropriate details. A system of military conveyance must be carefully adjusted to actual and possible military conditions. In societies chiefly industrial, where the principles of freedom and equality have gained recognition, it becomes a fundamental requirement of transportation that it do justice among individuals—the requirement underlying the present railroad problem.

In order, therefore, to develop a theory of transportation that shall be at all adequate, one must examine severally its relations to various social institutions. For this purpose I

shall for convenience classify those institutions as military, political, economic and ideal, including among the last all forms of organization having primarily religious, ethical, intellectual or artistic purposes. It is a sufficient defence of this classification that it corresponds well with the concrete facts of history. These classes of institutions are those which are in fact most obvious in the study of the past. As soon as institutions begin to differentiate at all they differentiate in this way. Other classifications may very probably be found preferable for other inquiries. The study of society has many aspects, and each aspect may call for a new classification of social facts.

In discussing the relation of the means of conveyance to any particular phase of society the inquiry may be looked upon as two-fold: first as to arrangements of a certain character found in transportation itself, and second as to the relation of transportation to institutions of this character in society at large. The several sorts of activity characterized as military, political, economic and ideal, work themselves out not only through great specialized organizations like the army, the state, economic exchange, science and art, but also in a greater or less degree through subordinate arrangements existing in all social institutions, among others in the institutions of transportation. It is obvious, for example, that a highly developed agent of transportation, like a railroad system, requires an internal political organization of much complexity and importance. And it is quite the same with other kinds of activity.

VI. TRANSPORTATION AND MILITARY ORGANIZATION

From the fact that during the earlier development of society the prevailing state of things is a state of war we have the corresponding fact that the means of transportation have a marked military character. Where the ways of trade lead among hostile tribes, or across seas infested with pirates, the carrying on of commerce by individuals acting independently and protected in their operations by law and public sentiment is of course out of the question. In order to break through the barriers of hostility and distrust separating primitive nations,

trade and transportation must concentrate, organize, and avail themselves of every expedient and ally. Accordingly we have the general fact of concentration and military organization. Instead of each merchant setting out whenever he finds it most convenient, movement takes place at infrequent intervals and in correspondingly large numbers. The merchants of ancient Mexico made their longer expeditions in large companies, and their armies of porters often attacked hostile tribes and even took towns.[1] So the caravans of the eastern land trade had and still have a military character. Pitched battles with robber tribes are common, and the latter not infrequently carry off the freight and sell the merchants into slavery. So it was with emigration to the west in the early history of the United States. Commerce by sea has had a similar character until quite recent times. Trading vessels commonly went in fleets, often accompanied by a special convoy of war vessels. And even at present express messengers and stage drivers go armed and merchant vessels usually carry a gun or two. In general, however, the military side of commercial transportation, once a very conspicuous one, has decayed until it is relatively insignificant.

Beside the fact that a state of general militancy obliges economic transportation to take on a military character we have the still more important fact that military organization on any great scale itself requires transportation of a type quite distinct from the economic.

It is a question whether military needs have not, the world over, given the first powerful stimulus to the development of communication. The earliest societies to attain wide dominion and comparative permanence of power were military monarchies. So with the ancient monarchies of the east; so with Mexico and Peru on our own continent. Unity was maintained by coercion, and coercion over a wide range of country required rapid movement of armies and supplies by land and sea. And what took place here on a great scale doubtless took place on a smaller scale elsewhere. Institutions in general were based on militancy, and military movement was better organized than any other kind.

As every one knows, the Romans had a system of artificial

[1] Prescott's *Conquest of Mexico*, i, 147, 148.

roads, whose construction was one of the most signal achievements of that people. These roads, which extended over the length and breadth of their empire from Britain to the far east, the more important of them built in the most solid manner and paved with stone, were distinctly military in character. They were intended primarily for the passage of armies and supplies for armies, and were located and constructed accordingly. Whatever trade took place over them was secondary, and they never would have been built for trade. Their fundamental difference from modern works of this kind appears from the fact that they were not constructed for wheeled vehicles, though some use was made of such for the carriage of persons and light commodities. The carriage of military supplies was upon the backs of beasts of burden. This stupendous system of transportation was of a type altogether non-industrial.

It would seem, from the accounts relating to ancient Peru, that the roads of that country were comparable to those of Rome for expense and solidity.[1] These also were of a character exclusively military. They were meant for the quick passage of the armies by the force of which this highly centralized empire was held together; not for trade, which appears to have been insignificant, certainly not for wheeled vehicles, since the Peruvians made use of none. It will be found that the principle, of which these are conspicuous instances, prevailed quite generally. Early road-building on any large and expensive scale was usually for a military purpose.

Nor was it otherwise with regard to vehicles. War chariots have been in use from the earliest times. We find them in Homer and pictured among the records of the Egyptians and Assyrians. In Wilkinson's volumes on Egypt[2] may be seen representations of ancient inscriptions illustrating in detail the making of these vehicles and showing that great skill had been attained. This, like all trades relating to war, was clearly a subject of careful study from a very great antiquity. On the other hand, wheeled vehicles were either not in use for carrying commodities at all, or such as were used were of the rudest

[1] *Descriptive Sociology,* no. 2, p. 61; Humboldt, *Views of Nature,* Bohn's ed., p. 393 *et seq.;* Prescott's *Conquest of Peru,* i, 63 *et seq.*

[2] *Manners and Customs of the Ancient Egyptians,* i, 227 *et seq.*

construction. The Romans employed heavy carts,[1] rarely wagons, the wheels of which were rudely formed of two or three planks fastened together by cross-pieces and cut into a circular form. These clumsy, solid-wheeled vehicles are still in use in many eastern countries, and were until recently common throughout southern Europe.[2] It seems probable that the commodious vehicles of modern land transportation trace their descent rather to the war chariots of Britain and Gaul than to any other source.[3] Thucydides [4] seems to hold that the first use of ships was as a means of plundering towns near the shore. Whether this view can be sustained or not, there can be no doubt that military enterprise was a powerful spur to early navigation, and has always had important reactions upon its direction, the construction of vessels and other particulars of maritime and river transportation. So military harbors and military canals were not improbably the earliest constructions of that character.

The swift transfer of armies and supplies to possible seats of war and the rapid communication of information and commands are the chief requirements of military transportation. Swiftness and security from interruption by the seasons are much more important than economy or capacity to carry any great bulk of commodities. Military roads in early history are commonly distinguished by a solid and expensive style of construction and by a directness that takes very little account of minor natural obstacles. That this last was the case with the Roman roads has often been remarked. They proceeded for the most part in a right line over hills and other obstructions that might have been avoided by a little deviation. This peculiarity is probably to be explained partly by the greater importance given to speed than to economy of labor in the minds of the projectors of the road, and partly by the fact that military roads are usually constructed by a despotic central power situated far from the spot where the work is done. Enterprises

[1] Smith's *Dictionary of Antiquities,* art. "Plaustrum."

[2] Many books of travel mention them; see especially Smyth's *Sardinia,* p. 92 *et seq.*

[3] See Smith's *Dictionary of Antiquities,* arts. "Reda," "Cisium," "Essedum."

[4] *History,* i, 4 *et seq.*

carried on at arm's length in this way by a power having no detailed knowledge of or interest in local circumstances must always tend to take on a certain arbitrary uniformity. Plans are drawn at the center of administration based on a general knowledge of localities, and carried out to the letter by subordinates who have no authority to deviate from them. Another reason not altogether fanciful may be found in a certain conscious magnificence and pride of power characteristic of military ascendancy in its prime. The aqueducts, the most imposing monuments of Roman grandeur, afford another example of the great style of that people.

Military transportation of all sorts shows the tendency to carry the development of speed beyond that of economy or burden-bearing capacity. War ships have been generally distinguished from merchant vessels by a lighter and swifter build; the horse, the swiftest of the beasts of burden, has been in great part reserved for war, while the slower and more patient animals served the purposes of trade. It appears also that the earliest arrangements for the quick transmission of intelligence were everywhere designed to serve military purposes. That of Peru,[1] a country which offers a perfect example of absolute despotism absorbing all social activities, appears to have been most efficient. The relays on the principal roads were only about a mile apart, so that the whole distance was traversed by the runners at full speed. Another familiar example is that of the military post of the Persian empire described by Herodotus.[2] It traversed the great military road extending from the original home of the nation in Persia proper to the bounds of the empire on the western coast of Asia Minor. Swift horses carried the post and the stations were at such distances that full speed could be maintained. The Roman post[3] was similar in its general plan, being simply a system of military despatches. It could be employed for private despatches only by special permission. So in France,[4] the earliest post was maintained by the monarchy for its own exclusive use,

[1] *Descriptive Sociology,* no. 2, p. 54; Prescott's *Conquest of Peru,* i, 66, 68, 70, etc.

[2] Book v, chap. 52.

[3] *Descriptive Sociology,* no. 8, p. 133.

[4] *Ibid.,* no. 8, p. 134.

and its chief purpose was doubtless the forwarding of military despatches.

Another sort of communication which has some interest as in a sense the precursor of the modern system of instantaneous communication by electricity was also, apparently, of military origin. This is the transmission of intelligence by beacons of fire or smoke, or other visible signals, and by shouting. The former has been in use in all parts of the world from the earliest times and has ever had for its chief purpose the spreading of a sudden alarm of military danger. The plan of shouting news from one point to another was employed in ancient Gaul for a similar purpose.[1]

Military transportation, then, is remarkable for its early development; and more particularly for the fact that it led to the construction of the first permanent and substantial roads and of the earliest means of swift transport and communication.

As society progresses and economic organization comes to the front the means of military transportation previously in existence have an important influence in determining the course of commerce. The most conspicuous example of this is the influence of Roman roads upon the subsequent development of Europe. These substantial highways, or many of them at least, survived the centuries of disorganization that followed the breaking up of the empire; and when a new group of states began to appear and trade to awaken with the restoration of some measure of order, they still furnished the best available routes of land communication. In England and doubtless elsewhere, they had precisely the same influence upon transportation and the settlement of the country as a river or other natural highway. "Settlements were made and towns sprang up along these old 'streets' and the numerous Stretfords and Stratfords and the towns ending in 'le-street' . . . mostly mark the direction of these ancient lines of road." [2] Thus the geography of Europe to-day retains important traces left by the military transportation of Rome.

On the other hand, in case of the introduction of an entirely

[1] *Ibid.*, table I.
[2] Smiles, *Lives of the Engineers*, i, 157.

new sort of transportation at a late period, the question whether it shall take on a military or an economic character must depend upon which sort of organization, economic or military, is ascendant in the existing social order. Thus we may say that the railroad system of the United States is exclusively economic in character, although the construction of the first line to the Pacific coast was hastened by military considerations. But in France and Germany military requirements have certainly played a very important part in determining the location of lines, while the railway system of Russia is perhaps more military than economic. The choice of routes upon military grounds may result in quite a different arrangement of lines from that which would best answer economic needs. Both must, to be sure, overcome the same obstacles in the same way, so that on the technical side they are likely to be nearly or quite the same. But it is clear without discussing the matter in detail, that the location of those lines which will best serve trade is likely to be different from the location of those whose chief aim is rapid movement with a view to strategical operations at possible seats of war.

VII. TRANSPORTATION AND POLITICAL ORGANIZATION

Although military and political organization are nearly identical in early stages of development and are closely associated in modern nations—the power of war and peace and the control of armies being commonly lodged in the same monarchs, presidents, ministers and legislative bodies that control the internal affairs of the state—yet they may conveniently be separated for our purposes. While the military aspect continually lessens in importance, the political increases as time goes on, and has given rise to numerous questions of practical difficulty.

We have seen that not only does transportation play a very important part in the general military organization, but under the perilous conditions of early trade takes on a military character of its own for protection against the dangers that beset it. This two-sidedness holds also in respect to other phases of organization. The choice by the members of a caravan of a leader with authority to preserve order and quell disputes on

the march,[1] the lodging of similar powers in the captain of a ship and even in the conductor of a train, are examples of political organization taking place within the means of transportation. The complicated administration of a railway from the president down to a foreman of track hands shows organization of this sort in its highest development. Nor are political arrangements on a larger scale lacking or inconspicuous. The merchants' and carriers' associations that have always existed where there was any considerable trade, have ever had for one of their objects the removal of tolls and other restrictions on transportation, the opening of rivers and the improvement of roads, the furtherance of the negotiation of treaties favorable to trade, and the like. So at the present time the promoters of railways, shipping, street railways, etc., form associations to advance the interests of these various kinds of transportation.

On the other hand, transportation bears very important relations to the political state. I have already noted that in a primitive condition of society it usually has a character chiefly military. In so far as it is not military it is likely to be political. Tribute and visits of ceremony are the occasion of a large share of the movement of persons and things that takes place in despotic societies, such as most of those were that held wide and long-continued sway in early times. The former is the means by which the central organization is nourished and aggrandized, its function being the same as that of taxation. In a state where the central organization overshadows and depresses individual initiative, trade, carried on through the medium of exchange, is often a very subordinate matter and may even be crowded out of existence altogether. In this case the society becomes communistic, and money, wages, contract, even barter, may be unknown. Whatever movement of commodities takes place is of a political character, either the movement of tribute toward the center or state distribution of food, materials, tools, etc., to places where it requires them for its own purposes. This absolute communism appears to have been nearly or quite realized in some despotic states, as in ancient Peru,[2] while many others, as Egypt, Assyria, Persia, Japan, had much of a com-

[1] Fraser, *Narrative of a Journey into Khorasan*, p. 346.
[2] *Descriptive Sociology*, no. 2, p. 3.

munistic character in this sense. In such a state of things transportation is both economic and political; the two forms of organization are not differentiated. That individual initiative, involving money, contract, etc., which comes at a later stage of social development to be peculiarly characteristic of economic life, has little or no scope.

One who has not looked into the matter must be surprised at the extent to which the movement of persons upon visits of ceremony and submission may attain under a despotic form of government. The principal use of the public roads may be for this purpose.[1]

[1] To illustrate this I quote from Kaempfer, an intelligent Dutch traveller who visited Japan in 1691. [Kaempfer's *History of Japan,* English translation, London (1727), bk. v, chap. 5.] "It is scarce credible," he says, "what numbers of people daily travel on the roads in this country, and I can assure the reader from my own experience, having passed it four times, that *Tokaido,* which is one of the chief and indeed the most frequented of the seven great roads in *Japan,* is upon some days more crowded than the public streets in any the most populous town in Europe. This is owing partly to the country's being extremely populous, partly to the frequent journies, which the natives undertake oftener than perhaps any other nation, either willingly and out of their own free choice, or because they are necessitated to it.

"The Princes and Lords of the Empire, with their numerous retinues, as also the Governors of the Imperial Cities and Crown Lands, deserve to be mentioned in the first place. It is their duty to go to court once a year, and to pay their homage and respect to the Secular Monarch at certain times determined by the supreme power. Hence they must frequent these roads twice every year, going up to court and returning from thence. They are attended in this journey by their whole court, and commonly make it with that pomp and magnificence, which is thought becoming their own quality and riches, as well as the Majesty of the powerful Monarch, whom they are going to see. The train of some of the most eminent among the Princes of the Empire fills up the road for some days. Accordingly, tho' we travell'd pretty fast ourselves, yet we often met the baggage and foretroops, consisting of the servants and inferior officers, for two days together, dispersed in several troops, and the Prince himself followed but the third day attended with his numerous court, all marching in admirable order. The retinue of one of the chief *Daimios,* as they are called, is computed to amount to about 20,000 men, more or less, that of a *Sjomio* to about 10,000, that of a Governor of the Imperial Cities and Crownlands, to one or several hundreds, according to his quality or revenues.

"If two or more of these Princes and Lords, with their numerous retinues, should chance to travel the same road at the same time, they would prove a great hindrance to one another, particularly if they should happen at once to come to the same *Siuku* or village, for as much as often whole great villages are scarce large enough to lodge the retinue of one single *Daimio.* To

Transportation may, then, under conditions that, though extreme, are not uncommon in semi-civilized states, have a character almost exclusively political, consisting chiefly of the movement of tribute and of the journeys of subjects to make ceremonial visits. A broader field of inquiry, however, opens when we consider the political relations of transportation in states where the political and economic organizations have in some measure at least a distinct development.

We may notice in the first place the strong tendency of transportation to be limited or in some way determined or modified by political boundaries. Among the nomadic peoples of the plains and deserts of Asia, where the earliest considerable land commerce arose, these boundaries were simply the limits of the power of a tribe or tribal nation. Across these limits transportation could not well pass without interruption, except the tribe in possession of the territory chanced to be so weak that a strong caravan could force a passage through it. Accordingly there was commonly a break at tribal borders and the movement of commodities was continued through the medium of fairs or religious festivals at which they changed hands.[1] These were probably the medium of the earliest land trade, though as it increased it naturally tended to win a more definite and convenient organization. The first caravans appear to have been nomad hordes moving from place to place with the seasons, and incidentally, for the most part through the medium of religious festivals, trading with the peoples with whom they came in contact. The pastoral peoples always took and still take a prominent part in caravan trade even though they may neither produce nor consume the commodities carried. The fact that they command the means of transportation

prevent these inconveniences, it is usual for great Princes and Lords, to bespeak the several *Siukus,* they are to pass through, with all the Inns sometime before; as for instance, some of the first quality a month, others a week or two before their arrival."

And so on. Next in number to these political pilgrims are the multitudes of religious pilgrims, then countless beggars, then a swarm of small hawkers and peddlers of a mean sort. What a picture of a state of society now forever lapsed and all but forgotten!

[1] *Descriptive Sociology,* no. 7, pp. 95, 96, 97; no. 5, p. 45; Yeats, *Growth and Vicissitudes of Commerce,* pp. 68, 178, 378; Heeren's *Researches,* Introduction.

through their domains—the roads, the springs, the necessary beasts of burden—puts them in a position to take such a part. When not themselves the merchants, as they often are when intelligent and enterprising, they act as carriers, furnishing to foreign merchants camels, guides and armed escort for a price which may be looked upon as partly payment for transportation, partly tribute. Sometimes tribute alone is paid and the merchants find their own means of conveyance. In any case the political sovereignty of the pastoral tribe has to be reckoned with in some manner.

A somewhat similar instance of the influence of political disunity upon the character of transportation may be seen in the condition of Europe previous to the rise of strong monarchies. The use of roads and bridges depended upon the will of feudal lords or other local authorities. Tolls and arbitrary extortion were everywhere met with; there was no power able to construct good roads or interested in doing so. The movement of commodities, as in the case of desert tribes, was effected in an occasional and precarious manner through the medium of fairs and religious meetings.

The progress of transportation is, then, necessarily dependent upon the consolidation of political power. The rise of strong monarchies, though these no doubt granted monopolies and imposed many restrictions for their own benefit upon the movement of commodities, brought in a condition of things infinitely better than that which had prevailed before. The kings did away with the previous economic disintegration, and improved the roads,[1] while the restrictions they imposed upon trade were more uniform and less severe than the old ones.

At the present time, and among the most advanced countries, political boundaries remain a very important element in transportation. Customs-duties, laws discriminating in any way against foreign traders, restrictions on immigration and travel, and the like, still have a notable action in limiting movement and determining its character.

Among the effects ascribable to the action of the principle now in question is a retardation of the development of land

[1] *Descriptive Sociology*, no. 8, pp. 133, 134; no. 1, p. 48.

movements relatively to water movements. The water is not only in many respects a better road from a physical point of view, but offers no social obstacles. The discouragement of commerce by piracy is by no means equal to its discouragement by such conditions of political disunity as those just mentioned.

As to the relation of states to transportation within their borders, we have first and last the familiar fact that this relation is very close. I know of no time or country, when economic transportation existed at all, in which it was not in an important degree a concern of the coercive, governing, organization of society—the political state, large or small, general or local. From the time when the earliest movements of the land trade were set on foot by desert chiefs to the present day, roads, bridges, harbors, and often the vehicles and other instruments of carriage, have been a public concern. At one time it was the local authority—lord, city, monastery, etc.—that controlled and exploited it; later the monarch; now a small state, now a large one made by consolidating the smaller; sometimes a commercial federation like the Hanseatic League. But the policy of *laissez-faire,* of turning over transportation to individual initiative and control, has never entirely prevailed. It is sometimes imagined that the public regulation of railways in the United States and Great Britain, which has made so rapid progress during recent years, is in some way the introduction of a new principle into the relation of transportation to government. But this impression cannot survive historical study. Highways and shipping were regulated by law in both countries previously to the building of railways. In the United States a national system of roads and canals was projected by the federal government at a very early period and partly carried out.[1] Aside from this the canals and chief roads were generally state enterprises. Many states[2] undertook the construction of railways when the railroad period came, and abandoned the undertaking only after discouraging experience. The present tendency to more regulation can at most be regarded as a reaction from

[1] See the famous report of Gallatin, *American State Papers,* Misc., i, 724; Schouler's *History of the United States,* vols. ii and iii; Benton's *Thirty Years' View,* i, chap. x; Adams's *Public Debts,* part iii, chap. ii.

[2] Notably Michigan, Illinois, Indiana, Pennsylvania. See Adams's *Public Debts,* part iii, chap. ii.

a policy of relative *laissez-faire* that was itself a reaction and had prevailed for only two or three decades. Harbors, shipping and navigable rivers have remained always subject to peculiar and somewhat minute regulation by public authority; while highways, city streets and other means of local movement have been regulated either by the several states or, more commonly, by the minor political bodies—counties, towns, cities, etc.

Indeed, it is easy to perceive that although regulation has always and everywhere existed it has, on the whole, tended to diminish rather than increase. Such complete absorption of the means of transportation by the political state as existed in some of the cases mentioned above is now unknown within the bounds of civilization. Many states own all or part of the railroads within their borders, but the movement of commodities and persons is everywhere a matter, for the most part, of private initiative. The ownership, control or regulation of the means of conveyance by modern states has for its chief aim not, as anciently in Peru, Persia or Rome, the direct aggrandizement of the governing power by military operations, tribute and visits of submission, but rather the furtherance of the economic organization. So much is this the case that transportation is quite generally looked upon as an exclusively economic function, and the study of it has become, with good reason, an important branch of economic science. This is not the place to discuss the question whether there is not some narrowness in treating transportation as a peculiarly economic matter. The point is that historically it has become less a political matter than it once was. And precisely the most marked instance of this is found in the internal transportation of the United States. The fact that numerous laws are enacted relating to railways, street railways, earth roads and the like, should not be allowed to obscure the broad fact that private initiative has a greater scope in connection with transportation than ever before. In what other time or country, save recently in Great Britain, has the projection, the location, the construction, the operation of the chief means of transportation within a great nation been left entirely to private enterprise, subject in its working only to a control which is rather

negative than positive in character; is confined almost wholly to prescribing in certain matters what private enterprise shall not do?

We touch here upon that aspect of the matter which is of most importance at the present day, the question, that is, of what part the political state should take in relation to economic transportation. The problem here is that of the apportionment of functions between the state, or the coercive form of association, on the one hand, and individuals or private and voluntary associations, on the other. It is purely a problem of expediency and the proper basis for a solution must be found in a careful analysis of the various social functions of transportation. Accordingly such general discussion of it as belongs to the Theory of Transportation will be reserved for a final chapter.

VIII. THE RELATION OF TRANSPORTATION TO ORGANIZATION HAVING AN IDEAL PURPOSE

Beside the coercive state, or political organization of society in the narrower sense, and the industrial or economic organization, there is a third well-marked type of organization that is distinguished by its more ideal purpose. In an early stage of progress the religious organization commonly embraces all the ideal aims of society among its purposes. Whatever of philanthropy, of general education, of research and the like exists, does so as a part of religion. Later, ideal organization differentiates in a complex manner, and philanthropy, education, art, science, attain a social machinery more or less distinct. Schools, colleges and universities, philanthropical establishments of all sorts, societies for the furtherance of social reforms, learned societies and the like, are instances of the later development of ideal organization.

The most general fact to be noted as to the earlier period is that in the midst of the state of war that commonly prevails in early times, the religious organization is the only force strong enough to secure even temporary peace among hostile tribes or states. Industry, trade and other peaceful occupations have been sheltered, the world over, under the wing of re-

ligion. They have begun in an unobtrusive manner under its protection and have remained there until strong enough to shift for themselves. Religion has ever insisted, for its own purposes, on the observance of sacred times and sacred places when and where hostilities should be intermitted. These times and places have been the opportunities of trade. Religious festivals and the holy ground in the neighborhood of churches and temples are inseparably connected with fairs and market places.

Thus among those pastoral peoples where the first land commerce sprang up there were from the earliest times, as indeed there still are among such peoples, periodical festivals having their origin in a kinship of blood, speech and religious tradition among neighboring tribes.[1] These gatherings, accompanied by a cessation of hostilities and, in the case of places held to be sacred, by the concourse of pilgrims from a distance, were the occasion in this case, as they have been the world over, for the exchange of commodities, ripening under favorable circumstances to a regular fair. Such festivals and pilgrimages with incidental transportation, communication and diffusion of arts and knowledge, were without doubt the earliest centers of incipient commercial activity. So in the early history of Christian Europe, "Fairs arose at saints' tombs or other sacred spots on occasions of anniversaries, for which at first provisions were wanted and where, afterwards, merchandise was sold." [2] These fairs remain the chief seat of commercial exchange and the principal destination of commercial transportation until such time as a more stable political organization takes trade and transportation under its own protection and gives them a securer and more convenient mechanism. Where, as in the case of desert nations, a centralized political organization is not attained, this close relation between religion and trade may continue indefinitely. Mecca has even been both the religious and the industrial center of Arabia, and the connection is so ancient and so close that it is doubtful which is cause and which effect. The religious festival was and is a great fair,

[1] See references p. 51, note.

[2] *Descriptive Sociology,* no. 8, table 4. Pages 133 and 134 of this number and the extracts collected under the head of "Distribution" in all the numbers are full of matter illustrating the early connection of religion with trade. See also Ashley, *English Economic History,* i, 69.

and the movement of pilgrims and the movement of commodities are inseparable.[1]

For a similar reason cathedral squares and the ground about monasteries and other religious buildings were the earliest location of shops and market places in the various countries of Europe.[2] These places were commonly under clerical jurisdiction and the clergy used this jurisdiction in such a way as to encourage trade. So also the monks and clergy encouraged and practised manufactures of a non-military sort. Indeed what is here said with particular reference to transportation applies to economic progress in general.

The construction and improvement of highways, bridges and the like appears often to have been an immediate object of philanthropic activity on the part of monks and clergy in the middle ages. Bishops and other rulers of the church frequently undertook public works of this sort, and there was even a congregation of monks, *fratres pontifices*,[3] formed for the especial purpose of building bridges and providing ferries for the service of commerce and travel.

In what has just been said attention has been directed chiefly to the importance of the religious organization in encouraging the economic movement of commodities. But it is true in this case as in the case of the military and political organizations, that there is associated with religion a distinct, non-economic sort of transportation that may and sometimes does attain a great development while the economic movement remains insignificant. The most peculiar and distinctive feature of it is the pilgrimage. Thus in the quotation already made to illustrate the condition of things in Japan two hundred years ago, we should have seen, had we turned over another leaf,[4] that the chief use of the roads, beside the making of political visits, was for pilgrimages. Every citizen of the country was obliged to make certain pilgrimages every year. So in the middle ages, the chief movement of persons other than military, was apparently the movement of pilgrims, or of persons pretending to

[1] Robertson Smith in *Encyclopedia Britannica*, art. "Mecca."
[2] *Descriptive Sociology*, no. 8, p. 134.
[3] *Ibid.*, no. 8, p. 141.
[4] Kaempfer's *History of Japan*, bk. v, chap. 5.

be pilgrims for greater security. The crusades may be regarded as an instance of transportation of this sort, attaining enormous extent and formidable organization.

From the fact that the religious organization is in early times the chief nurse and protector of higher thought of all kinds, it naturally follows that thought-transportation is an important part of its machinery. For example, in so far as early communication in Europe was not military or political, it was religious; that is, it took place in connection with the religious organization of society. Books and ecclesiastical documents of various sorts were circulated by traveling clergy, letters on secular business were entrusted to pilgrims, and the universities, monasteries, etc., maintained special messengers when no regular post existed.[1]

If we pass on to consider a more modern state of society than that of the preceding paragraphs we are confronted with the problem of the relation of transportation to ideal organization in its complicated recent development. The word "religious" no longer covers the ground. The churches, which embrace all that is commonly understood under this head, form but a small part of the modern organization of thought.

We may remark in the first place that we have here, as in the case of political relations, an organization of the kind in question within transportation itself as well as in society at large. Of the complicated structure of modern railway service, for example, a considerable part may be regarded as devoted to psychical rather than physical processes; to observation, discussion, decision and communication. Statistical, accounting and auditing bureaus, boards and committees of various sorts, and many of the higher administrative officers have this character. On the side of the physical instruments of the communication of thought we have signals and alarms of all sorts, a special mail, telegraph and despatch service, etc.

Leaving this question of internal structure as too technical to be very important to our present purpose, we have no difficulty in perceiving that transportation is connected in an important manner with the psychical organization of society in

[1] *Descriptive Sociology,* no. 8, p. 134.

general. A theory of transportation must give some notion as to the character of this connection.

For greater clearness let us recall in what this psychical or ideal organization chiefly consists.

In its simplest aspect, that of the instruments of which it makes use, it embraces all the physical means for the communication and preservation of thought—signs and gestures, spoken language, letters and manuscript records of all sorts, newspapers and books, telegraphs and telephones. To regard only these physical instruments, however, would be like limiting the study of psychology to that of the anatomy of the nervous system. If we look somewhat deeper into the matter we see everywhere social as well as physical arrangements for this purpose. We have just seen that the higher organization of the *personnel* of transportation is highly psychical. It is so with every institution, and especially with that most conspicuous of all institutions, the coercive state. The state tends continually to develop on the psychical rather than on the physical side. Legislatures, statistical bureaus, courts and the higher administrative officers have functions of observation, communication, decision and discussion as contrasted with the physical and directly coercive functions of armies, navies and police.

We have moreover certain great institutions that have a distinctly and peculiarly psychical purpose. Such are science, education, literature and art. These are not merely names for a certain side of human activity, but they are institutions having a more or less definite social organization for carrying out their peculiar purposes. Thus the organization of science is without doubt the most universal social mechanism, and perhaps the most perfect for its especial purpose, that exists. Through its learned societies, universities, scientific books and periodicals, bibliographies, etc., it maintains something like perfect communication and unity of effort among scientific men the world over.

If one rightly considers the enormous intricacy and importance of these psychical processes of society, this social thinking, perceiving, feeling and deciding in all its unspeakable multiplicity, he may well conclude that its adequate anal-

ysis and interpretation is the most complex and difficult problem ever offered to science.

What, then, is the relation of transportation to this ideal or psychical organization? It is obvious on the one hand, that the association is somewhat close as far as physical instruments are concerned, and on the other that these matters as a whole are far too large to be included in an inquiry directed primarily at transportation.

The fact is that material transportation and the communication of thought make use in part of the same instruments, especially in their early development, and are analogous in their functions even when highly organized. On the other hand their functions, though analogous, are widely different, while the course of mechanical and technical progress tends more and more to separate them even in respect to their physical means.

Thus a century ago the "post" carried light commodities and was also a vehicle of the transfer of thought. Persons, goods, letters and books went by the post. Yet there was never a time when communication and conveyance did not employ different means to a considerable extent. Signalling to a distance by shouting, by fires, smokes, etc., was practiced by savage nations and at a remote period of time. The military post of the Persians, Romans and other warlike nations was chiefly for communication, while their trains of pack animals were only for the carriage of commodities. So, more recently, but before railroads, there was always, in addition to the post, a wagon service for the carriage of heavy commodities. At the present time the carriage of books, newspapers, letters and other vehicles of thought is effected by the same means, for the most part, as the conveyance of light merchandise. But we have also a special mechanism of communication in telegraphs and telephones, a mechanism that dispenses entirely with the transfer of material masses and renders communication instantaneous.

Nor should we overlook that the carriage of letters, despatches and the like is but a small part of the physical mechanism for the communication of thought. That mechanism embraces spoken and written language, the printing press and the technique of the arts and sciences. It is with these rather

than with transportation that the theory of communication is most intimately and inevitably connected.

Moreover there is good reason for the separation of the two in the unlikeness of their processes. That movement of physical masses which is the essential thing in transportation either does not take place at all in the communication of thought, or if it does it is merely incidental and not of the essence of the thing. Transportation is physical, communication psychical. The latter belongs to a distinct branch of study of immeasurable importance and complexity, namely, social psychology. It cannot profitably be dissociated from that field of inquiry which embraces language as an instrument of social organization and all the material agencies that language employs.

I think, then, that a separation can advantageously be made between the theory of transportation and the theory of communication, notwithstanding that they use, in part, the same vehicles, have a common aim in the overcoming of space, and exert in many ways an analogous influence upon social development. A study of communication from the point of view of place relations may be undertaken in connection with the study of transportation; but such a study cannot penetrate more than skin-deep into the social meaning of communication. In transportation place relations and the overcoming of obstacles in space are everything. In communication place relations, as such, are of diminishing importance, and since the introduction of the telegraph it may almost be said that there are no place relations. Space—distance—as an obstacle to communication has so nearly been overcome that it is hardly worth considering. In the transportation of material goods and of persons such a result is inconceivable, and in this field the "annihilation of space" must remain a figure of speech. Although the conquest of physical obstacles to movement is a principal feature of the development of transportation, yet it is clear that this conquest is only relative. It cannot be said, on the whole, that territorial relations were ever more important in the exchange of goods than now. Efficient transportation greatly modifies and extends them, making them world-wide instead of local, but has no tendency to diminish their general significance.

The obvious analogies between transportation and communication are somewhat superficial and supply no adequate basis for the common theoretical treatment of the two subjects. The nervous and circulatory systems of the animal body also offer close analogies from an anatomical point of view; they are not more widely separated in their functions than are the conveyance of material goods and the conveyance of thought.

The view here taken of course does not involve any conclusion as to whether such means of communication as telegraphs do not have political relations so similar to those of transportation that they may advantageously be regulated in a similar manner or even by the same agencies. This is a political and administrative question that must be decided on quite different grounds.

IX. TRANSPORTATION AND ECONOMIC ORGANIZATION [1]

In this essay the economic idea is held to be, at bottom, the nourishment idea, using the word nourishment in a wide sense to include the getting and using of all material commodities whatever. As all forms of social organization require nourishment in this sense, so all have some kind of economic structure. Organizations devoted primarily to other ends, as the family, the state, schools, need material commodities and so must have, secondarily, an economic organization of one sort or another. There is also a great and general organization that is primarily economic and only secondarily anything else. This rests upon the division of labor, territorial and personal, and embraces the whole mechanism of production and economic exchange.

Theoretically, therefore, the study of the economics of transportation covers two fields, that of the economic structure existing within transportation itself and that of the relation of transportation to the economic organization of society at large. The former subject, as well as the latter, is one of very great importance, including as it does the private or internal aspect of all the problems of transportation—such questions, for example, as that of the theory of railroad rates regarded as a means of getting the greatest possible private rev-

[1] Strictly speaking this title covers also chapters x-xiii.

enue. In practice, however, it will be convenient to treat the two together, taking chiefly the public standpoint but referring to the private where it seems important to do so. We come, then, to the relation of transportation to economic society.

We strike the key-note of this matter when we say that the study of economic transportation is equivalent to the study of economy in its place relations. Transportation is a mechanism for moving things and persons from one place to another, and so far as economic phenomena are related to this movement they are related to transportation. Whatever is connected with territorial conditions, with the surface of the earth considered as an area, is connected with transportation, which is a mechanism conformed to these conditions.

The whole matter, then, of the distribution of population, wealth and industries over the face of the earth is in one of its aspects a matter of transportation. We have before us such great questions as that of the territorial division of labor, general and local, the concentration of population in cities, the location of cities, and the relation of territorial conditions to prices, markets, competition and other phases of economic exchange. These are, to be sure, questions of transportation in only one of their many aspects; but that one is important, perhaps as important as any.

The best plan of procedure in discussing these questions will be to begin with their simpler, more physical or mechanical, aspects, and then go on to those that are more complex or symbolic. Commencing, then, with the segregation of population as a merely physical matter, we shall pass first to some discussion of the territorial division of labor and of the theory of cities, and then to the relation of transportation to a complex system of commercial exchange.

Without transport mankind would necessarily be pretty uniformly distributed over the surface of the arable earth, the main irregularities being those due to differences in the fertility of the soil. The earth is the only primary source of food, and man must stay where the food is produced unless he can have it brought to him. The existence of the smallest village involves the movement of commodities to and from it, the beginnings of social transportation. Side by side with this general fact

we have the fact, equally general, that development is dependent upon differentiation, upon the breaking up of uniformity and the redistribution into a complex and interdependent system of centers of mass and force. Or, to be more specific, any efficient organization of industry is quite inconceivable without the concentration of men and other industrial forces in cities and other foci of industrial activity. Economy of force and concentration are inseparable. All kinds of industry except agriculture are distinctly and directly centralizing in their tendency. Nor is agriculture a real exception, since efficient agriculture means specialized agriculture, and specialization implies centers of collection and distribution.

Apparently this tendency to industrial concentration must continue to be an accompaniment of industrial progress. It is sometimes said in a speculative way that the present industrial concentration is the concentration incident to the generation of power from coal through steam, and that if electricity, for example, should accomplish the economical distribution of power from a central plant over wide areas, industrial concentration would diminish. As to this it may be said that, even though power could be distributed indefinitely without loss, this distribution could by no means produce the effect suggested. The division of power is the simplest of many questions of division that must first be solved. How divide expensive machinery, such as steam-hammers, rolling mills and the like? Production is daily becoming more dependent upon complicated and costly pieces of machinery to multiply which would be quite out of the question. If this problem could conceivably be solved there would still arise the more difficult one of the division of the social machinery of collection, distribution and economic exchange that must ever accompany complex industry.

The point here is, of course, that transportation is the instrument of all social specialization in place. Just in the degree that transportation is mechanically efficient can this segregation of men and things in accordance with various laws of economic progress, take place.

It is also true, however, that since the aim of transportation is to set men free in respect to place relations, to make these

relations more plastic to social needs, it can mitigate or do away with those aspects of concentration that are socially undesirable. The extreme concentration of population at centers, has, for example, deplorable effects upon the health, intelligence and morals of persons who have to live in such places. Transportation having rendered extreme concentration possible now turns around and by means of street railways and other forms of urban travel endeavors to mitigate its evils. Humanity demands that men have sunlight, fresh air, grass and trees. It demands these things for the man himself and still more earnestly for his wife and children. On the other hand, industrial conditions require concentration. It is the office of urban transportation to reconcile these conflicting requirements; in so far as it is efficient it enables men to work in aggregates and yet to live in decent isolation. The greater its efficiency in speed, cheapness and convenience, the greater the area over which a given industrial population may be spread.

The development of transportation and of the territorial division of labor must ever proceed side by side. Neither can be said to go before the other, since they are mutually dependent. The only source of local or international trade in ancient or modern times is international or local specialization in production—something is produced in one place which is lacking in another. In the presence of an active demand for these distant commodities they tend to move from the place where they are produced to the place requiring them; transportation is set up. On the other hand the transportation resulting from these forces is by no means a mere passive effect but becomes in turn a very active cause of counterchanges. It enormously stimulates and greatly modifies that specialization to which it owes its origin. Under the spur of transportation existing differences in production are increased and new ones are introduced that could not well have been maintained previously. Amid the complication of causes and effects, of reiterated interaction, from which economic life as a whole results, transportation, determined in great measure by permanent natural conditions, has its firm position as one of the fundamental and comparatively independent causes. There is no first cause: this one is as early as any.

On account of its peculiar relation to place-specialization in industry transportation increases more rapidly than production. As the efficiency of productive processes is multiplied by the division of labor, the bulk of goods carried is increased not only proportionately but far more than proportionately. A greater share of the whole product must be conveyed from one place to another. Thus in a somewhat simple state of society, where half of what is consumed is produced at home, the other half only will require transportation. If owing to greater territorial division of labor nine-tenths of what is consumed comes from abroad, transportation must increase in the same ratio, independently of that general increase of production which goes on, of course, at the same time. Conveyance, then, is an industry that must ever grow much more rapidly than industries in general. One puts the matter forcibly if not accurately when he says that transportation increases as the square of production.

For the closer study of the relation of conveyance to the territorial division of labor we must turn to the latter and observe that there are two underlying reasons for it. Place-specialization in industry is necessary, first, because of the economy inherent in the principle of the division of labor; second, because of the existence of local facilities for production. These causes, though everywhere in operation—sometimes in harmony, sometimes at variance—are in theory quite distinct. If the surface of the earth could be conceived as perfectly uniform, offering nowhere peculiar natural encouragement to the development of particular kinds of production, men would yet find their advantage in local specialization because specialization saves force. On the other hand, even though there were no economy in the territorial division of labor as such, yet the face of the earth being diversified as it is, territorial division would result from that diversity. Even in the first case men would aggregate in towns, cities and factories; even in the second they would produce wheat in one place, cattle in another and metals in a third. It will be worth while to divide these two principles in thought and to glance at their separate operation.

First, then, is place-specialization in industry regarded sim-

ply as an economic distribution of force and without reference to differing natural facilities.

I have already remarked,[1] in a general way, that transportation, in the absence of marked diversity in the earth's surface, tends to take on a complex radial form, the primary roads converging to central points which are themselves connected by secondary roads with other and more important centers. In its operation this tendency is closely associated with the principle of local division of labor, and the two acting together bring about that primary separation into town and country everywhere observed. The tendency of society to divide into town and country comes from the economy of division of labor; the size and location of towns is determined largely by transportation. The blacksmith, the miller, the carpenter, etc., are required in every agricultural community; convenience of access to them and other craftsmen calls for the formation of a village at a point easily reached by converging roads. The question whether this division and concentration of labor shall be carried so far as the building of large towns depends upon the facilities of movement to and from the center.

If those facilities permit we have, situated near the center of a group of country villages, a large town connected with them by converging highways. The country villages themselves, instead of being simply centers where the farmers and craftsmen meet and exchange products, now become the starting point and end of longer movements between the villages and the town. They become centers of collection for such commodities as are produced in the neighborhood and of distribution for such as are brought in from abroad. The division of labor in them is increased by the addition of a class that occupies itself with buying, selling and storing the goods that go abroad or come thence. The formation of the large town is due to precisely the same forces as the formation of the village; the higher division of labor requires factories and other forms of concentrated production which call together a large population and must be located with reference to the conditions of transportation. And these large towns are again connected with great cities whose existence is due to the same general causes.

[1] Page 20.

In the larger town we see another sort of local division of labor introduced in the specialization of the various parts of the city. The separation between city and suburbs, between the portions assigned to residence and to business, is an example. It is this that chiefly determines the character of local passenger movement by street and elevated railways and other forms of rapid transit. Here also we see at work the general principle that the degree of specialization is determined by the efficiency of transportation. Only as the machinery of this local movement is developed can we have that separation between the place of living and the place of working that permits certain parts of cities to be devoted wholly to industry. The speed of street-cars determines the distance from his work at which a man can conveniently live.[1] Another form of place-specialization in cities is the setting apart of different quarters for different industries. This existed in mediæval cities, and is quite marked in modern ones.[2] The wholesale and retail quarters are commonly quite distinct, while the chief establishments in each line of industry may be found grouped together. Only restaurants, retail provision and drug shops, and other places where small and frequent purchases must be made, are without this segregation.

The larger the city the greater the part played in it by those industries that are concerned with movement. At an important center we have radial movements in and out—centrifugal and centripetal—of a very complex character. There is, to begin with, the local or primary movement of commodities to and from the country in the immediate vicinity. This is of the same sort as that about a country village and is effected chiefly by the teams and wagons of the farmers, gardeners, etc. Next is the other local movement peculiar to the large centers of population and exchange. To accomplish this we have for commodities a countless multitude of trucks, wagons, etc.; for persons, hacks, omnibuses, street, elevated and underground railways of all sorts, bicycles and the like. Even the movement up and down becomes here so important that we cannot well

[1] Compare pp. 65, 100 *et seq.*

[2] In the middle ages this segregation appears often if not usually to have been compulsory. See Ashley, *English Economic History*, ii, 19.

omit freight and passenger elevators from the list of means of transportation. All of these devices, of course, have their numerous *personnel* and their important and costly mechanism —tracks, overhead and underground structures, wires, cables, power-plants and barns. Together they make, as any one may see, an industry that takes up a great part of the labor and wealth of the city.

Not only the local movement but the longer movement connecting the city with other towns and cities, requires its own complex machinery. The terminal structures of railroads for the accommodation of passengers and freight, offices, storage-warehouses, hotels, grain elevators, docks and the like, are an important and conspicuous part of city structure on the material side and the people connected with them are equally important on the personal side. All industries concerned with the collection of commodities and persons in the city for shipment away from it, in the distribution of commodities and persons coming in from without, or in the transfer and storage of what is passing through the city, are a part of the machinery of this secondary or distant movement. Nor should it be forgotten that the whole mechanism of commercial exchange,—wholesale and retail shops and stores, banks and other instruments of trade,—is in one sense a part of the means for the movement of commodities and persons. The relation of transportation to exchange will presently be examined more closely.

All those forms of place-specialization that have been described can be conceived to exist in a country without natural diversity of surface. They would grow up out of the economy resulting from the division of labor even were they not, as in fact, stimulated and modified by a difference in the natural capabilities of places. As a matter of fact they do take place in regions where there is almost no perceptible diversity in natural conditions. This is the case over wide areas in certain of the western states of this country, where the land is flat and of uniform fertility, the rivers too small to be navigable, and irrigation unnecessary. The railroad alone enters to disturb the prevailing homogeneity. A considerable town grows up at a central point whose position is often determined by the accidental circumstance that it is near the center of a county and

therefore chosen for the county seat. This slight advantage gives it a start, and population and industry accumulate around it simply because economic progress requires industrial centers. About such centers the roads exhibit much of that radial arrangement [1] which transportation naturally takes on in the absence of diverse physical conditions.

More commonly, however, transportation and place-specialization in industry are closely associated with and determined by differences in the character of the earth's surface. For the purposes of the present inquiry we may think of all these natural differences as of two sorts: first, fixed local facilities for production, such as coal, iron and other mines, water power, fisheries, peculiar qualities of soil, etc.; second, natural facilities for transportation. Differences of the first sort are precedent to and independent of transportation, but affect it indirectly by influencing production. Those of the second sort are not only the chief factors in determining transportation but in doing so they create facilities for production. These propositions will be more fully elaborated as we proceed. The point here made is that the economic distribution of persons and goods over the surface of any country is ultimately determined by natural conditions falling under these two classes.

In hilly regions a point convenient for getting water power from a stream very commonly fixes a mill site about which a village grows up. Here is a simple example of a natural facility for production making the nucleus about which population clusters under the operation of the principle of local division of labor. This simple example may be looked upon as the prototype of a large class of mining and manufacturing towns and cities. The existence of mines builds up towns and cities in regions otherwise wholly uninhabitable, and manufactures of a coarser sort, such as lumber mills, blast furnaces, etc., must commonly be placed near the source of raw material, as in the case of saw-mills, or of fuel, as in the case of the iron industries.

[1] But not so much as would be advantageous. Compare Professor Jenks's monograph on "Road Legislation for the American State," p. 49 *et seq.* [In *Publications of the American Economic Association,* vol. iv.] The allotment of land by sections interferes with the natural arrangement.

These local facilities cannot be utilized without transportation, and they supply one of the chief spurs to its progress. From this point of view the efficiency of transportation is measured by the degree in which it enables natural resources to be exploited. The more perfect is transportation the more exclusively can people everywhere devote themselves to those pursuits for which their dwelling-place is suited. The territorial division of labor takes place and industry becomes interdependent and organic. How but for this could a large population in the southwest devote themselves exclusively to the raising of cattle, another large population in the northwest to growing wheat, another in Pennsylvania to the iron manufacture, and so on? To make only one thing means that nearly all the product must be sent abroad and most needs supplied from thence. We see in the condition of agriculture in many parts of the United States what a hindrance imperfect transportation is to economic development. The secondary or long distance transportation, the railroad, has outstripped the means of the local or primary movement, the country road. The last remains for the most part in a miserable condition, offering an insuperable obstacle to the bringing of agricultural products from any great distance and confining profitable farming to the strip of land nearest the railroad.

So in turn the existence of local facilities for production stimulates transportation. It was the movement of coal that caused the construction of tramways in England, that suggested and stimulated the inventions of Stephenson,[1] that furnished an early motive for the building of railways in the United States.[2] In general, mines, which are commonly situated among mountains, have been of the first importance in the development of land transportation. They have forced it out of its easier channels and compelled it to surmount the most formidable obstacles.

In attempting comparison between different countries and different times with reference to the development of industrial specialization, we find the question greatly modified and complicated by differences in the state of the industrial arts and in

[1] Smiles' *Life of Stephenson.*
[2] Ringwalt's *Transportation Systems in the United States,* p. 68 *et seq.*

the industrial character of the people. We may, however, abstract some general principles concerning the relation between the development of transportation and that of the territorial division of labor. Thus, from the point of view of the utilization of natural forces, the local division of labor may be said to develop, under the influence of transportation, in three chief ways.

1. From a natural or primary specialization, that is, one so necessitated by natural conditions that it exists before the interchange of products, to a social or secondary specialization, that is, one that could not exist without interchange.

2. From a specialization upon light and costly commodities, that is, those comprising great value in small bulk, to one upon those that are heavier and cheaper.

3. From a specialization confined to durable commodities to one that includes also perishable commodities.

It is clear that these changes in production are the reflection of changes in transportation and are inseparable from the latter. The interchange of bulky and perishable commodities means quicker and cheaper movement.

That there is a natural specialization of products before trade arises is easily seen. Nature supplies gold, spices, furs and other things of great value which are unattainable in some places, and in others to be had almost without labor. Savage tribes produce what they can produce easiest. In the tropics they live upon cocoa-nuts, elsewhere upon game or milk. The earliest trade is simply an interchange of these familiar products, and production is at first stimulated without being changed in character. Thus Heeren [1] classifies the commodities of the primitive land commerce of the east as follows:

I. Precious metals and gems: gold, silver, precious stones, pearls, etc.

II. Articles of clothing: fine wool and cotton and their manufactures, silks, furs.

III. Spices, aromatic woods and gums.

Most of these things are obviously primary natural products. They are also such as comprise great value in small bulk and are not perishable through simple lapse of time. Modern com-

[1] *Researches, Asiatic Nations*, i, 40 *et seq.*

merce is widely different in all these respects. Only a minute portion of its commodities are at once natural, costly and durable. The great bulk of it consists of relatively cheap things: grain, iron and its manufactures, coal, cattle and meat, cheap cloths. Again, though it is still largely concerned with raw materials, the products of mines and of agriculture, these are seldom the obvious and indigenous products of a primitive industry. And, lastly, a large and increasing proportion of what is exchanged is perishable, as dressed meat, fruit and the like.

It seems only necessary to state these principles in order to secure their acceptance. How little, for example, of that specialization now existing among the pursuits of the people of the United States could have been maintained under a system of transportation like that caravan movement which sufficed for the splendid commerce of the primitive east. Ours could have none of that splendor. We have gold, to be sure, on one border of our land, but silks, gems, spices, unguents and the like are almost entirely lacking. Our heavy though useful products could not be moved at all; each neighborhood would have to produce what it consumed; agricultural tools could not be had, the men of the plains would have to live in *adobe* huts, food would everywhere be limited to a few indigenous products, great cities would be out of the question; in a word, the American continent could support nothing but a squalid, ignorant and hopeless peasantry.

Of the two sorts of diversity in natural conditions alleged a few pages back as chiefly determining the territorial distribution of population and wealth, namely, natural facilities for production and natural facilities for transportation, I have so far confined myself as closely as possible to the former. I have considered mines, water power, fertility of soil and the like, as fundamental causes in determining the growth and location of industries and of population, stimulating movement and in great part determining its character. Passing now to natural facilities for transportation we note, in the first place, that it is in many if not most cases these, and not facilities of the former class, that determine the location of manufacturing industries and of the population associated with them. Convenience of

transportation becomes itself, in all advanced conditions of industry, the most important of local facilities for production. While it is true that the cruder manufacturing processes, such as the sawing of lumber, the smelting of ore and the coarser iron industries, must take place near the source of raw material; those of a finer sort, in which the cost of moving the raw materials is relatively less important, tend to seek the large centers of the collection, distribution and exchange of products. The vicinity of cities, wherever these may be located, will always be the chief seat of the finer manufactures on account of the conveniences that cities offer for selling and shipping goods.

Before going farther it will be well, for the sake of clearness, to indicate in a general way the character of the relation between the conveyance of goods and commercial exchange. I have just pointed out the connection of transportation with one part of the economic process, namely, agricultural and manufacturing industry; if I can now show its connection with the exchange of goods I shall have isolated it, as far as possible, from those inquiries with which it is most closely associated, and shall be in a position to formulate a theory of its own peculiar action in determining the local distribution of population and goods.

What, speaking generally, is the relation that transportation bears to the rest of those activities known as trade or commerce? Commerce is commonly understood to embrace transportation and exchange (purchase and sale), with incidental regard to the underlying conditions of production and consumption. Of these, transportation grows out of territorial conditions, purchase and sale out of the institution of property. As the need for the division of labor, conditioned by territorial relations, finds its solution in transportation, so the same need, conditioned by the institution of property, works itself out in exchange. The movement of goods cannot be organized without changes in their ownership any more than without means of transportation. The one is physical, the other symbolic.

Since, then, the two are so intimately bound together, how, it may be asked, is it possible to dissociate them, and what is gained by such dissociation? The reply is that all social processes are intimately bound up with others, and isolation of

one can only be partial and provisional. This provisional isolation, however, is indispensable to analysis. In this case, by separating transportation from commerce and fixing attention upon territorial relations, we eliminate most of those numerous and complicated phenomena that make up exchange, and get a comparatively limited field that offers interesting questions peculiarly its own. These questions are chiefly those arising from a study of the economic process from the point of view of location. In the theory of the location of towns and cities, a question at which we are now arrived, exchange plays a subordinate part and may be regarded simply as the symbolic aspect of transportation. As far as place relations are concerned, transportation determines exchange and not *vice versa.*

X. THE LOCATION OF TOWNS AND CITIES

The theory of urban location is an extremely complicated matter, and not wholly a matter of transportation nor of economic relations. In early and war-like times military considerations are of great if not paramount importance in the original placing of cities. The first towns in militant communities are forts, and their inhabitants find in them a defence, a basis for hostile incursions, and a means of holding conquered territory. There have also been and still are cities that owe their importance to religious prestige, the supposed sacredness of a particular place.[1] Political forces may also determine the matter,—a modern instance is the fact already noted, that in the western United States, in regions where there is almost no diversity of surface, a considerable town often grows up at the county seat simply because of the slight advantage due to the location there of the public buildings and offices. Nor can it be denied that the site of cities is sometimes fixed by no better reason than the chance and possibly unwise selection of the first colonists.

These are examples of causes quite apart from the economic considerations that become predominant as society advances.

[1] See Robertson Smith in *Encyclopædia Britannica,* art. "Mecca." The importance of Rome, since the fall of the empire, has rested to a great degree upon religious prestige.

They may work with or against the latter. In many cases it would seem that the military requirement acts merely as a modifying force. The position of a city is determined by economic causes within certain limits, wider or narrower as the case may be, and within these limits the exact site is fixed by military availability.

Aside from these causes cities owe their origin entirely to economic forces. I have attempted to show that among these forces transportation is the most important if we look at the question from the point of view of location; though it was not denied that local facilities for production exercise an important and independent influence. Our next inquiry must be as to the manner in which transportation acts in determining the location of industrial centers. The following is offered as the most general statement of the law.

Population and wealth tend to collect wherever there is a break in transportation.

By a break is meant an interruption of the movement at least sufficient to cause a transfer of goods and their temporary storage. If this physical interruption of the movement is all that takes place we have what I may call a mechanical break; but if on account of the close relation between transportation and exchange already pointed out the physical interruption causes a change in the ownership of the transported goods, we have a commercial break.

It will at once be obvious that a break of the first sort is of much less importance than one of the second. Even a mechanical break may, however, bring together a good many persons and necessitate considerable structures. There must be loading, unloading and intermediate carriage of some sort. There must be buildings for storage, with persons to care for them and for the goods they contain. There must also be some sort of provision for the instruments of transportation —ships, camels, railroad cars, or whatever they may be—during the process of loading and unloading; provision also for the persons that accompany them. Around this group of specialized labor and appliances there must, of course, collect a corresponding agricultural, artisan and shopkeeping popula-

tion of the sort characteristic of the time and country in question.

The commercial break is almost always present at or near the physical interruption and greatly increases its importance. Where a break of this sort exists on an important line of transportation—though it be in the midst of a desert—there must be a commercial city.

The reason is not obscure. At a commercial break there necessarily arise, beside the machinery of transfer and storage already spoken of, the highly organized *personnel* and appliance of economic exchange. There must be a class of merchants and money-changers, who require buildings more or less elaborate for the carrying on of their business, and whose wealth tends to a splendid style of living and draws together a relatively large and various subsidiary population. The nucleus thus formed, of a commercial city, tends strongly, though the tendency may be counteracted by adverse conditions, to become the seat of manufactures of political power, and of the central institutions of all varieties of social organization. Even in the most primitive states the commercial capital usually becomes the political capital and is commonly the seat of the chief temples and of the culture of letters and art.

The next question is, whence do breaks arise? If they have these important consequences, if social substance tends to leak out and fix itself wherever these interruptions occur, it is important to inquire into their causes.

The most important of these causes are necessary physical interruptions; for example, the junction of land transportation with water transportation, of one kind of water transportation with another, or of one kind of land transportation with another.

The location of the greater number of commercial towns the world over, and from the earliest times to the present day, has been fixed at the point of juncture between land and water movements. It is hardly necessary to illustrate this statement in detail. The chief seat of inland towns is, or at any rate was before railroads came in, along navigable rivers at the points where these are most easily accessible from the land. The

point where road and river meet may be determined by the conformation of the land, especially if the surface is rugged or mountainous. We may then look for a town not far from the most commodious passes or at the confluence with the river of some small tributary whose valley makes a convenient roadway. Or the character of the river may decide the matter and the road may be drawn to a point suitable for a ford or a bridge. The names of innumerable towns ending in these syllables and their equivalents in other languages show how general has been the action of this cause. An artificial watercourse has the same effect as a river; witness the rise of numerous towns upon the Erie Canal immediately after its completion.

Roscher[1] points out the importance of isthmuses in this connection, that is, of the narrowest point in a strip of land separating two seas, two important rivers, or a river and the sea. The two sides of the isthmus become, of course, points of transfer between land and water, and for this reason, according to the theory here maintained, are likely to be the sites of cities.

Upon the coast of a sea or of large lakes the situation of a harbor, especially if harbors are few, is usually the determining element in the matter and fixes the point of juncture between land and water movement.

The physical necessity for a break is not confined to the point where land and water conveyance meet. It exists wherever the technical apparatus of vehicles and forces has to be changed. In water transportation it is found at that point in the course of rivers where sea-going vessels must be exchanged for lighter and shallower craft. This seems to be the chief factor in determining the location of most commercial towns of the first class. They are situated upon the estuaries of navigable rivers, or upon the rivers themselves at a place not too far up to be accessible to large ships. The break is between two varieties of water transportation rather than between land and water, an exchange between boats built to slide over shallows and those built to cut the waves. The fact that

[1] *Nationaloekonomik des Handels,* chap. i. The first section of this chapter, consisting of two pages of text and several of notes, is devoted to the location of cities.

many great rivers have produced cities of this sort can escape no one; as the Nile Alexandria and Cairo, the Euphrates Babylon, the Elbe Hamburg, the Weser Bremen, the Thames London, the Seine Havre, the Rhone Marseilles,[1] the Mississippi New Orleans, the St. Lawrence Quebec, the Hudson New York,[2] the Delaware Philadelphia, etc. Indeed of cities famous for their commerce those not situated on the estuary or lower course of a navigable river are comparatively few. Of course the routes of land transportation are also drawn to these points, and it is quite possible that with the surprising development of railroads during recent years the importance to a commercial city of having a navigable river to feed its trade is relatively diminishing.

There is also a large class of towns whose situation is fixed by the meeting of two kinds of land transportation. Thus in these days railways have much the same part in determining social development as formerly belonged to rivers. In their original location they are in great part influenced by the situation of existing cities; but once built they become themselves a cause of new cities, especially in those young countries where railroad building precedes population. The active towns are invariably placed on the line of the railway, and the precise location, if the surface is at all irregular or mountainous, is likely to be fixed by the point of intersection with an important earth road. The point where the railroad crosses a navigable river is of course favorable as being a place where the exchange between land and water movement takes place. The intersection of two railways has of itself no tendency to form a town, because there is no change in the kind of transportation, no necessary break.

Before the appearance of railways the formation of towns at the break between two kinds of land movement was not uncommon, though perhaps less conspicuous than now. Thus, the border of a mountainous district, the line where the foot-hills

[1] Not directly on the river, but "on the nearest place on the coast where nature had furnished the conditions which the delta of the Rhone denied." Chisholm's *Commercial Geography*, p. 238.

[2] The Erie Canal, which may be regarded as an extension of the Hudson, first established New York as the commercial metropolis of America.

lapse into the plain, is commonly the seat of cities which are likely to be placed at the ends of the principal roads that traverse the mountains. The break here is between the vehicles and seasons peculiarly suited to mountain transportation and those suited to the level and open country.[1] Again, it would seem that in the east, particularly in former times when caravan transportation flourished, the border line between the desert or arid plains and the fertile agricultural regions was often the site of cities.[2] Some place not very far from this line must be the place where caravans are organized and merchandise collected and distributed. Thus Professor Robertson Smith[3] explains the situation of Mecca as the place where the most important routes from the arid interior of the country come down through the mountains and meet the arable plain.

Looking at this matter from a slightly different standpoint, it appears that the interruption is not necessarily due to a change in the natural features of the earth's surface, but may be simply the change from the vehicles of a small and scattered movement to those of a large and unified movement. Breaks of this sort are exceedingly important in land transportation, and exist wherever a number of small local movements come together and form by their junction a single large movement, or go to swell a large movement formed elsewhere. They correspond to the fact that the raw material of all commerce comes originally from the soil and must be collected at central points by the vehicles and at the convenient seasons of local transportation. So also whatever of local produce is consumed by the scattered population must be distributed by similar means. This sort of movement naturally takes on a radial form,[4] the small local movements drawing together to a common point and contributing to the larger movement that takes

[1] Compare Roscher, *Nationaloekonomik des Handels,* pp. 4 and 5.

[2] The history of Palmyra is an interesting illustration of this. This city seems to me to have been one whose location and importance can be explained only on the break theory. See Robertson Smith, in *Encyclopedia Britannica,* art. "Palmyra"; Heeren's *Researches, Asiatic Nations,* ii, Appendix ix.

[3] *Encyclopedia Britannica,* art. "Mecca."

[4] See pp. 20 *et seq.* 67, 68.

place between that point and others at a distance. At the point of junction of the larger and better equipped and organized long-distance transportation with the crude vehicles of local conveyance, there is necessarily an interruption of the movement. If the conditions are in every respect uniform, considerations of convenience tend to place these points of collection and distribution at the center of the tributary plain. The location of many towns and cities seems to be fixed by this requirement alone.[1]

Leaving the study of purely physical conditions and taking with us our hypothesis that a break in transportation is the indispensable condition to the formation of a commercial city, we see that the interruption may be due to political forces. The obstacles to trade arising out of the non-industrial organization of many societies and particularly of international relations, often render it impracticable for merchants to extend their operations far into other countries than their own. Trade is carried on through the medium of fairs, marts, staples, emporia, to which the merchants of both countries resort to exchange their wares. The national line, especially if it also divides different races, acts very much like the line between sea and land, or other natural separation. Both the means of transportation and the ownership of goods must be changed, and we have the essential conditions of a commercial break. Among barbarous nations at all times and among civilized nations in their early development, this is a cause of the first importance. At the present time its operation is not very obvious, partly because the practice of shipping goods to the interior under bond tends to prevent the action of existing restrictions from being localized at national boundaries.

Before concluding this subject it is worth while to emphasize the fact that, contrary to a somewhat general impression, the mere intersection of lines of transportation has no necessary tendency to cause the growth of a commercial city. What is required is a break—transfer, storage and change of ownership—and if the break exists, no intersection is necessary. There are many points in this country where two railroads, each

[1] Compare Roscher, *Nationaloekonomik des Handels,* chap. i, sec. i.

doing an immense business, intersect without the slightest tendency to cause the growth of a city. Even if a large amount of freight and many passengers are interchanged, an insignificant "junction" and a restaurant are all that is necessary. In that case we have a mechanical break of a very simple sort. More perfect arrangements for interchange of cars, for through-billing and the like, tend constantly to make intersections, as such, of less importance.

Indeed we have here one reason for the continual aggrandizement of the large towns at the expense of the smaller, by the removal to them of the mechanism of transfer and commercial exchange. From one point of view the number of breaks represents the expense of transportation, and the tendency to dispense with the smaller ones by means of interchange of vehicles, consolidation of lines, etc., is a part of the progress of the division of labor. The question whether the result is not, for other reasons, undesirable hardly enters here.

What has been offered regarding the theory of urban location may be summed up as follows:

Non-economic causes, as military and political, have a notable influence, especially in the earlier history of societies.

Of economic causes of cities the most general is pressure toward greater division of labor: the efficient use of natural forces is inseparable from the concentration of population and wealth. This cause acts independently of particular places and has of itself alone no action in fixing location.

Two influences chiefly determine the location of cities: local facilities for production and local relations to transportation. The former of these acts mostly through the coarser and primary manufacturing industries. The finer manufactures seek the most convenient centers of distribution, that is, of transportation.

Transportation, itself guided in its course chiefly by the physical diversity of the earth's surface, is the main cause of the location of cities in an industrial society. The mode of its action is that *population and wealth tend to collect at a break in transportation;* the reason being in the first place the necessity for the material and symbolic machinery of transfer at

breaks, and in the second the tendency of other economic activities to collect where that machinery exists.

XI. THE RELATION OF TRANSPORTATION TO MARKETS, PRICES, COMPETITION, ETC.

Transportation, in the measure of its efficiency, strikes from economic forces the chains of time and place. We should cover most of what needs to be said in this connection in saying that transportation promotes competition, if we gave a sufficiently wide construction to the word. Free movement extends the scope and application of agriculture, mechanical labor, directive talent, inventions, capital,—of all economic factors whatsoever. One can best understand this matter by approaching it from several points of view, as those of supply and demand, of markets, of prices and of competition.

In just the measure that the difficulty of movement is overcome, that transportation becomes quick and cheap, is the reach of effective demand extended. Where crude means of conveyance prevent the movement of goods the demand of the people of a single place is limited in its working to the close vicinity of that place, while the needs of other places are not felt as a demand. Facility of movement, by extending the scope of demand, tends also, other things equal, to make it uniform and to give it a more varied character. It becomes more uniform, because not so much affected by accidental local changes. If demand in modern markets is more fickle and fluctuating than in those of an earlier time, it is not because of better transportation, which of itself always tends to uniformity, but because of the contrary action of forces that transportation has been unable to overcome. The character of demand is diversified because things that become accessible become desired; witness the degree in which oranges and other southern fruit have recently [1] become necessary to the people of the north.

Supply tends to become more uniform in different times and places. This is very obvious in the necessaries of life. The great famines of former times are now almost unknown be-

[1] "Recently," though accurate in 1894, is hardly so now. [Ed.]

cause of the ease with which a local scarcity can be remedied by importation. Though the interdependence of nations as to these necessaries is increased, it has also become generalized; thus, while the dependence of England upon the rest of the world for grain is greater than ever before, it is less than ever a dependence upon any particular grain-growing country. The supply may come from America, Australia, India, the Black Sea. The general result, therefore, is greater security and regularity of supply the world over.

Quick transportation diminishes the need for holding large stocks of goods. With railroads dealers are far less compelled than formerly to anticipate the demands of their customers a long time ahead. In many lines of trade the stock held is hardly more than samples, the railroad and the telegraph being trusted to for the filling of large orders. This is particularly the case in the wholesale trade, where goods are commonly shipped from the factories after the order is taken. The factories, in turn, adopt the same plan with raw materials; they hold as little as they can and prefer to buy only for immediate needs.

The outcome of this is that the whole economic process is greatly hastened. The holding of a stock involves the lengthening of the time between production and consumption. Under present methods that time is so much reduced that the materials, in the iron trade for example, are frequently in their crude state when the order for the finished product is taken.[1]

It is of course obvious that many forces work directly against transportation in this matter; the growing complexity of production and exchange tends to lengthen the time between the extraction of the raw materials and consumption. But transportation has primarily and of itself the action stated, and is so far effectual that the contrast between present and past trade in the need for anticipating demand is probably less than commonly imagined.

Were all other conditions stationary efficient transportation would tend, for the reasons given, to diminish the need for capital in production and exchange. One use of capital, as

[1] In other words we have so far as this is true, a state of things commonly supposed to be peculiar to a very primitive condition of industry.

every one knows, is to tide over the period between production and consumption. In so far as facility of movement shortens this period it does away with the need for capital. Something of this is seen in the ease with which many sorts of business, as the sale of agricultural implements, are carried on through agents, who are either in the employ of the manufacturer or else local dealers with little or no capital. Only the promptness with which each order can be filled from the factory, does away here with the necessity for large stocks, and hence for a correspondingly large investment.

We see the same facts from a somewhat different point of view when we look at markets. A market is the area over which competition extends, and though it has no sharp boundaries it is clearly determined by facility of transportation and communication. The means of quick movement enable things distributed over a wide area to be offered simultaneously in one place; or they enable things collected in one place to be offered simultaneously in many places. This is competition on its material side. Communication is the symbolic or psychical mechanism and permits the competitive bidding that must accompany the transactions of the market. If the retail dealers over a circle of a hundred miles' radius are connected by telephone with the wholesale dealers of a single large city, and can have their purchases sent thence in two or three hours, the competition is almost as perfect as among the dealers of a single place. As the distance becomes greater, the time of movement longer, and communication more difficult, competition becomes imperfect; but in the case of durable and staple commodities it has some action over whole countries, continents, or even the world. The market for the precious metals embraces the whole earth in pretty effective competition. The reasons which make a difference in the extent of the markets for different commodities are aside from the question; it is enough to note that this extent varies in the case of any one with the facilities for transportation and communication.

The normal effect of more efficient transportation upon prices is to make them lower and to lessen the variations of the prices of any particular commodity in different times or places. After what has already been said these effects need

little further discussion. The cost of movement enters into the price of all that has to be moved; and for this reason alone, without regarding more indirect results, prices fall with cheaper conveyance. A tendency to equality of price at different times and places follows from the action upon supply and demand already spoken of. It may be added that the substitution of one commodity for another that serves a similar purpose, such as the using of corn or rye meal when wheat flour is dear, is much facilitated by cheap and rapid conveyance.

In general, then, transportation makes for that free interaction of industrial forces which is the ideal of a competitive society. Of course in all that has been said it has been taken for granted that the opportunities of transport are equal to every one. The fact that the means of transportation have been and are used for creating inequalities among persons is a deformity upon their normal beneficence. About these discriminations there can be no question but that of the speediest and most effectual means of doing away with them. They strike at the very root of freedom. That a policy of noninterference with them could find advocates is a strange perversion of the principle of *laissez-faire,* the original intent and only justification of which is that it favors economic liberty. Free competition is altogether dependent upon the just performance of the function of transportation.

Though no one will deny justice as a principle, many difficulties arise in its application. To show what justice requires is a part of the theory of rates.

XII. THE GENERAL THEORY OF RATES

In discussing this question it is natural to regard chiefly that form of transportation in which it is most conspicuous and important—railways. The standpoint taken is that of the interests of a society chiefly competitive which depends for its progress principally, though by no means exclusively, upon the enterprise of individuals and of private associations.

A primary inquiry is that of the relation of the public interest to that of the institutions of transportation, of society to the

railroad corporation; the social and the private economies of the matter.

The chief interest in rates from the private point of view is in the revenue resulting from an excess of receipts over expenditures. That system of rates is best which results in the greatest net revenue. Any particular rate is to be judged in the light of a careful study of the increase or decrease of movement that would be caused by lowering or raising it. A lower charge is preferable if it will stimulate movement sufficiently to make the receipts greater, a higher if it does not too much hinder movement to have the same desired result.[1] What is wanted is a rate of maximum return. As regards the adjustment of rates among persons, commodities and places, the private theory works out in the principle of "charging what the traffic will bear"; that is, the charges must be so distributed as to render the movement of goods as large as possible.

The private interest also fixes, theoretically, a minimum rate that represents the immediate cost of handling a particular part of traffic, the cost that could be avoided by not handling it. If this is not covered there is a direct loss. But, as all familiar with railway questions are aware, this immediate cost is small compared to that cost that is not immediate, not the result of any particular movement, but the general expense of the mechanism as a whole—the cost that must be borne somewhere but not anywhere in particular. The private theory of rates often permits, and indeed requires, their adjustment without much regard to the cost of any particular service.

It is not proposed to work out in detail the theory of rates from the private standpoint, nor to inquire how far an adjustment according to that theory would consist with public policy. It is simpler to discuss the matter from the public point of view, qualifying our conclusions by such deference to the private aspect as justice seems to require.

There are only two considerations suggested by the private theory of rates which, it seems to me, need to be borne in mind during the further discussion of the question. These are, first, that rates as a whole should be such as to afford a reasonable

[1] See Professor Hadley's mathematical statement of the private theory of rates in the appendix to *Railroad Transportation*.

return to investment, and, second, that particular rates, though they may be adjusted within a wide range, may not be reduced below a certain minimum representing the immediate cost of movement spoken of above. The first cannot be neglected without something resembling confiscation; the second seems required by a common-sense regard for the mechanical conditions of movement. Having admitted these qualifications we may, I think, take altogether the public point of view.

Four principles are here advanced as fundamental to the theory of railway rates.

I. They should do justice among persons.

II. They should permit the utilization of special facilities for production arising from soil, climate, mines, or other immovable natural agents.

III. As to the distribution of manufacturing and commercial industries, they should favor decentralization rather than concentration.

IV. In other respects they should give the greatest possible freedom to the action of economic forces.

As these four propositions are unfolded it will appear, I hope, that they form the groundwork of a comprehensive theory of rates. It may be worth repeating that in this part of our inquiry the question is not of the practicability of adjusting rates to a theory, but solely of what they ought to be, supposing we had the power to make them what we would.

The first principle, that requiring that there be no discrimination among individuals in the rates of transportation, is so self-evident as to be of little interest from the theoretical standpoint. The equality of industrial opportunity, a fair chance for every man, is the very breath of a competitive society. Without equal rates among persons there is not a fair chance. The application of this principle is as difficult as its justice is plain. Personal discriminations continue to exist and to threaten industrial freedom in spite of all measures hitherto employed to prevent them. The redress of this evil is perhaps the most important of the practical questions connected with railway rates.

The principle plainly requires that rates be equal among persons in the same place and dealing in the same or equiva-

lent commodities. Precisely in what this equality consists is often a difficult question, as appears by the numerous cases in which it is not clear whether a discrimination has or has not been made. One question of this sort may be mentioned as involving a principle of so general application as to require consideration in any inquiry into the theory of transportation.

Should large quantities be carried proportionately cheaper than small quantities? Or, to state the question in the practical form it often takes, should carload rates be less than those for smaller shipments? From the point of view of public industrial policy it is not clear that this distinction is admissible. It has plainly a tendency, by giving advantages to the shipper of large quantities of goods, to make large dealings more profitable than small, and so hasten the concentration of industrial power. This concentration has already forces enough behind it and tends to become so great as to threaten the existence of competition. If competition is to continue to be the ruling principle, concentration requires rather to be checked than encouraged. Wherever a question of this sort arises it would seem that the small shipper should have the benefit of the doubt. The most plausible ground on which to rest the defence of carload rates appears to be the claim that in their absence small shipments would be so greatly and unnecessarily multiplied as to increase the general cost of transportation to a degree that would more than counterbalance the advantage of encouraging the small dealer. That any such result would follow the abolition of carload rates appears doubtful. The question is one to be considered in a more detailed discussion than the present.

The second principle means that, wherever a region is found peculiarly adapted by its soil and climate to the raising of a certain product, it should be enabled to raise that product. Thus, to permit the development of the fruit-growing of Florida and California, the wheat-raising of the northwest, the rearing of cattle on the southwestern plains, low rates should be made if necessary. The principle applies not only to these conspicuous examples of natural aptitudes, but also to less obvious instances. Every agricultural district may be supposed to have in some degree peculiar natural capacities. With

a given amount of labor each can produce a greater value in certain commodities than in any others. The use of these special powers is indispensable to the efficiency of industry as a whole, and rates should not be such as to prohibit it.

It will readily be seen that this second proposition is closely related to the theory of the territorial distribution of persons and wealth already put forth. Two fundamental causes of this distribution were recognized,—local facilities for production and the conditions of transportation. What is here asserted is that the latter should, so far as practicable, favor the operation of the former.

This, however, is very far from being identical with the theory of "charging what the traffic will bear," as that is generally understood. What is here advanced concerns only industries that rest upon immovable natural agents, notably agriculture. The question what relation transportation rates should bear to manufacturing and commercial businesses, which are not, for the most part, determined in locality by immovable natural conditions, but by transportation itself, is quite a different matter. The second proposition may be held by one who does not admit the validity of "charging what the traffic will bear" as a principle of general beneficence.

This second principle is already recognized, in a general way, by the making of very low rates upon coal, lumber, wheat and the like heavy commodities, for the production of which particular regions are peculiarly suited. It is, however, no part of the just application of this principle that great areas of specialized productive facilities should be encouraged while the smaller ones are neglected. Rates from the northwest should be low enough to enable the development of the great wheat regions in that quarter, but the wheat regions further east should also receive such rates as to enable them to ship to the same market. In so far as rates can determine the matter they should permit each district in the country to raise that to which its soil is best adapted.[1] That there are great diffi-

[1] The limit to the adjustment of rates for this purpose is pointed out on page 88, where it is said that particular rates "may not be reduced below a certain minimum representing the immediate cost of movement."

It is not meant that any mining or agricultural region should be encouraged to the extent of carrying its products at a loss.

culties in the way of obtaining the statistical data requisite for the detailed application of this principle may readily be admitted. But these difficulties are met on every hand and impede the application of any principle whatever that takes account of the complex conditions of economic life. They are no more conspicuous here than elsewhere.

This principle makes one legitimate basis for the classification of freight, for differences in rates among commodities. To utilize local facilities for the production of things having little value in proportion to their weight and bulk, the rates upon these must sometimes be reduced to the minimum of immediate cost of movement,[1] by which, of course, a portion of the general cost is shifted upon something better able to bear it. It is clear, however, that since the principle relates only to the immediate products of the land and of other immovable natural agents, it can afford no complete theory of the classification of freight.

It cannot be too clearly pointed out that the logical basis of the second proposition is the immovability of the natural facilities for production to which it relates—the fact that if these facilities cannot be improved where they are, through the aid of transportation, they cannot be improved at all. On the other hand manufacturing and mercantile industries are as a rule not fixed to the soil, and may be developed almost anywhere if the conditions of transportation are sufficiently favorable. We come then to the third proposition.

The third principle put forward is that with respect to manufacturing and commercial industries rates should favor distribution, decentralization, rather than concentration. The importance of the questions here involved will readily be grasped by any one who has followed that detailed inquiry into the place relations of society in which it was held that the conditions of transportation are a chief cause of the manner in which population and wealth are distributed over the face of a country. The size, location and character of cities, and all kinds of territorial development, are dependent both in general and in detail upon transportation. In discussing railway rates we treat of one of the most important elements of transporta-

[1] Compare p. 88.

tion, in whose adjustment all of these momentous consequences are in a great measure involved; an element, moreover, that is not determined by any automatic process whatever; but one that must be consciously determined, and should be determined upon considerations of public expediency. There is no avoiding this question of rates; it has no tendency whatever to settle itself.

We have before us the question of the relation that rates should bear to places; whether and in what manner and degree they should vary with the distance that things are carried, whether a distinction between places may be made on other grounds than that of distance. And indirectly the question of the classification of commodities is involved, since different places deal in different commodities. Distinctions among places in the matter of rates may, in fact, be divided into two classes: those effected directly by different rates on the same things, and those effected indirectly by the way in which rates are adjusted among different things.

There are several causes operating in practice to give lower rates to some places than to others, which are here held to be distinctly of evil tendency. Among these are competition among railroads, and a favoring of the larger towns for no other reason than that, because they are larger and more opulent, their merchants are able in various ways to influence the policy of the railroads. That large towns should be able to secure lower rates than small ones otherwise similarly circumstanced, plainly operates as a discrimination against the merchants of the latter, and tends artificially to hasten that concentration of population and wealth which of itself proceeds quite fast enough. Differences due to competition are commonly of the same character; they are differences in favor of the larger towns due to the fact that these are competing points, —places, that is, where there is a choice among rival routes of shipment. That very great differences in rates due solely to this cause exist in all quarters is a well known and a pernicious fact. From the point of view of public policy these differences are altogether inexpedient. They tend artificially and with enormous force to aggrandize the great centers of population at the expense of the smaller. It is impossible to know how

much they have to do with the fact that large cities are growing so fast compared with the country as a whole, but it may well be believed that they have a great deal to do with it.[1]

We may say of discriminations among places made upon these grounds, as we said of discriminations among persons, that there can be no question save of the speediest and most effectual way of doing away with them. A great difficulty, however, arises in trying to discover when differences come from this cause and when from better. As to this I hold that competition in railroad rates is opposed to the general interest and ought to be replaced by union under public control.[2] Active at comparatively few points, it tends to enrich these at the expense of all the rest. Because it is confined to a small field its operation in that field is altogether abnormal and unhealthy. The public feeling in favor of railroad competition is loyalty to an idea that has here no practical application. The disappearance of competition would be one step toward the adjustment of rates on other and better grounds.

Supposing it granted that differences made for these reasons are inexpedient, we come to the question, what is a proper basis for the adjustment of rates among places? It will be convenient at this point to take up the fourth principle, that requiring that rates should give the greatest possible freedom to the action of economic forces, and ask what adjustment of rates would be required by the unconditional application of this principle. Then we shall be in a position to see what ground there is for limiting its application and how this limitation bears on the theory of rates.

The leading idea of the fourth or greatest-freedom principle is that transportation, in so far as it can, should set economic forces absolutely free, and that rates should be adjusted with this aim. Facility of movement has had this operation in the past; let it continue it to the maximum point attainable. In so far as freedom from physical restrictions is attained society is enabled, by the maximum of specialization, to get the greatest

[1] Such is the opinoin of the Interstate Commerce Commission; see their Second Annual Report, 30 *et seq.* A recognition of this fact, in my judgment, involves a condemnation of the whole system of railway competition as it now exists.

[2] Compare pp. 114-118.

possible result from the division of labor. Under the normal operation of economic laws, freed from the trammels of distance and from the unjust discriminations now prevailing, cities will locate themselves at such points as offer special facilities for manufacturing production, and grow to such size as is advantageous, and no larger. If they become very large it will be because that is necessary and expedient.

To conform to the greatest-freedom theory rates should, it appears to me, be adjusted as follows:

The classification of freight should be based as nearly as practicable, upon value; that is, the more valuable commodities should pay rates in proportion to their value in order that it may be possible to give the cheaper ones rates low enough to move them. Or, looking at the matter somewhat differently, it may be said that by charging for value rather than bulk or weight, these mechanical and, so to speak, accidental elements, are in so far eliminated from among economic forces.[1] Economic forces are freed in the degree that those that are social in character are enabled to supersede those that are merely physical. And value is the social measure of commodities as opposed to the purely material measures, bulk and weight.

The theoretical effect of basing rates upon value is that the movement of useful things is promoted in the highest possible degree, and that the cost of transportation enters as a uniform percentage into the cost of all commodities. Movement is promoted because its cost is distributed equally and not made to fall harder upon heavy things than upon light. It may be assumed, in general, that the value of a thing and not its weight is the measure of its ability to pay for transportation; and that in distributing cost of movement according to value we are distributing it according to the ability to bear it. The statement that such a distribution would also make the cost of transportation enter everywhere as a uniform percentage of the cost of the commodities is sufficiently accurate for our present purpose, though perhaps inexact. It is clear that if it cost everywhere five cents to move a dollar's worth of goods to market,

[1] There is doubtless an impression abroad that basing rates upon anything but weight is in some way a "discrimination." But surely, except from a purely mechanical point of view, weight is not a rational basis.

that five cents will, in general, raise the total cost at the point of delivery to one dollar and five cents.

I accept the greatest-freedom principle in so far as it relates to a classification of commodities based upon value. Its unconditional application requires, however, an adjustment of rates to places that appears to me inexpedient.

Rates upon the same commodity should, under the greatest-freedom theory, be everywhere uniform, without regard to distance. Classification would remain on the basis of value, but as regards a particular kind of freight the postal system of a uniform rate would prevail. Distance, by being rendered a uniform cost to all competitors, would be as nearly abolished as it can be by the adjustment of rates. This element no longer entering, all other forces would have full scope. No dealers would be shut out of any market because it cost too much to reach it. A difference in time in traversing different distances would of course remain, but that is something over which rates are powerless. Markets, the areas of competition, would be indefinitely enlarged, and no set of dealers or manufacturers could be secure of the exclusive possession of any particular field.

If we accept unconditionally the greatest-freedom principle there is no reason why distance should be recognized in the making of rates; no reason, that is, from the public standpoint. It would require a certain recognition in so far as a longer haul is actually and necessarily more costly to the railroad than the shorter.[1] This difference would demand attention in the case of very heavy and cheap commodities, as coal, where the rate itself has to be so low that the differences in cost due to distance become important in comparison with it. In such cases if rates were uniform for all distances they must either be so high as to prevent shipment or, if low, the longer movements must take place at an actual loss to the railroad. But to a great degree differences in actual cost might be altogether neglected, as they are in the postal service.

In so far as it aims to eliminate the effect of distance this would be a concentrating and specializing principle. It is so in theory and it would be even more so in practice. In eliminating

[1] Compare pp. 88-9.

distance as an economic element it would remove that which has acted and still acts as a chief obstacle to the advance of the territorial division of labor in all its forms. Freer scope would be given to those forces that tend to the building up of great cities and the concentration of manufactures in particular districts. There is ever, as already pointed out at some length,[1] a pressure toward centralization arising from the economy of force associated with it. The friction of movement over the earth's surface is a chief resistance to this pressure, and uniform rates aim at the removal of this friction. It remains, to be sure, as a mechanical factor, but its relation to places and distances is taken away and it becomes simply a uniform charge upon the movement of values.

Such is the theoretical working of this principle in a country, if any such is conceivable, where it operates from the first instead of being applied, as must be the case in practice, after a considerable industrial development has been reached. In this latter case the effect must be, I think, to fix and perpetuate the existing distribution of persons and goods. Cities would become larger and industries more specialized, but would remain in the same places. To be more specific, this principle, applied to the United States at the present time, would stimulate the growth of existing cities and aggrandize the commercial and manufacturing industries of the east, but would prevent the rise of new cities and discourage all attempts to move manufactures and large mercantile enterprises westward. What motive is there for these changes except convenience of situation? And is not the difference in the cost of transportation the chief element in this convenience? Why locate manufactures near the raw material when it costs no more to move the raw material a long distance than a short one?

Here it is pertinent to ask, why indeed? Why should manufactures be near the raw material? Is it not quite as well that they should be somewhere else, especially if thereby we gain the saving of force due to a maximum concentration and specialization of industry? This inquiry raises a number of questions too wide in their scope and too far removed from our immediate purpose to be examined in detail. There is, first, the

[1] Page 67 *et seq.*

question what is the maximum economical limit of the concentration of industries? If there is a limit to the law of increasing returns in its application to manufactures, where is that limit? How far would the building up of great industries and of territorial specialization in manufactures go if allowed free scope? And again, supposing that the economical gain of this process is far from exhausted, how much is it offset or overbalanced by undesirable social conditions that accompany it—overcrowding, narrowness of individual life and the like?

Without answering these questions it is sufficient to say that I share the common opinion that the concentration of population and wealth tends to excess. Accordingly I prefer the decentralizing principle in the making of rates.

This principle as stated on page 88 is negative in form, involving no more than a denial of that just discussed. There are indeed many ways and many degrees in which the adjustment of rates can be made to work against an extreme industrial concentration. What is wanted is a moderate plan, one that shall not prevent society from realizing in large measure the benefits of industrial concentration and the territorial division of labor; and a simple plan, one that can be understood and applied.

So far as I can judge, the best simple and comprehensive principle toward which to work, in adjusting rates upon any particular manufactured commodity, is this: that rates should be proportional to distance, provided only that the rates for short distances do not fall below a certain minimum representing the actual and immediate cost of hauling the freight.

The theory of rates advanced in the preceding pages may be summed up in the following propositions:

a. Personal discrimination must not exist.

b. Differences in the rates given to different places, arising from railroad competition or the favoring of large cities, must not exist.

c. Rates must be such as to permit the utilization to the public benefit of local facilities for mining and agricultural production.

d. Rates on any particular commodity, not among the raw products of immovable natural agents, are to be proportional to distance, except that for short distances a minimum may be fixed sufficient to cover the immediate expense of handling the freight.

e. The classification of commodities, other than raw products, is to be such as to make rates as nearly as possible proportional to value.

Whatever may be thought of these propositions it is claimed that they constitute, when taken together, a comprehensive general theory of rates. General principles of this sort are to be used as a basis upon which to build up a complex structure of detailed practical reasoning. Beside the question of their truth there is the farther question whether, if true, they form an adequate basis for the practical structure.

Rates may vary with persons, with places, with commodities. A sufficient theory of rates, however general, should indicate their relation to these three possible causes of variation. It seems to me that the propositions above answer this requirement. Thus *a* declares that so far as persons are concerned there should be no differences on this account. The relation of rates to places is determined by *d* modified by *c*. It is not denied that *c* is indefinite, but only with that indefiniteness inseparable from a general proposition relating to so complex a subject. As a principle it is clear enough. And in like manner the relation that rates should bear to commodities is determined by *e*, modified by *c*.

Any practical effort to conform railway rates to the requirements of public policy must of course encounter formidable difficulties whose detailed discussion is beyond the scope of the present inquiry. The question whether and in what manner they should be regulated by government will presently come up in connection with the theory of the relation of transportation to the state. The chief difficulties in the way of rational change, from any quarter, may be classed as statistical difficulties and those arising from the existence of competitive conditions which it is troublesome to disturb. The lack of information, of a sufficient body of trustworthy, comprehensive and well-arranged facts, is alone an insuperable

obstacle to the efficient public or private regulation of railway rates.[1]

The application of any theory of rates would disturb existing conditions of competition, and the question just how much this disturbance ought to be admitted as a reason against changes otherwise desirable, is a practical inquiry of considerable importance. The merchants of a given city may have been enabled by actual rates to compete in markets from which they would be shut out were rates what they should be; or industries may have been established in places where they could no longer maintain themselves. In answer to such objections, however, it is pertinent to inquire whether an unsettled and planless state of things is not continually working wrongs of this character, and whether anything looking toward a rational and permanent adjustment is not preferable to chaos.

XIII. TRANSPORTATION AND RENT

The relations of transportation to the distribution of product among industrial classes—to wages, interest and the questions of labor and capital associated with these, are for the most part too remote and indirect to enter into our inquiry. This, however, is not the case with rent.

Rent is closely connected with transportation because it is a matter of areas and distances, of place relations. I said at the beginning of the present division of the subject that the study of the economic relations of transportation was nearly equivalent to the study of society in its place relations; and this notion holds good at the present point.

Rent would exist as a result of transportation alone, were there no differences in the fertility of soils. That is to say, varying productivity, a fundamental conception of the Ricardian theory, is not indispensable to the existence of rent. Nor is it necessary that the supply of land be limited. In the case of an unlimited area of uniform soil rent would exist, and its law would be as follows:

Rent arises from differences in the cost of getting commodities to market, and is measured by the difference between this

[1] Compare p. 113 *et seq.*

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cost in any given case and that in the case of the most remote land which it pays to cultivate.

There is of course nothing new in this proposition, but it emphasizes the fact, perhaps imperfectly realized, that the conditions of movement are an independent cause of rent, coördinate with fertility and the margin of cultivation.

Transportation is, accordingly, an element entering into all rent, and changes in transportation change rents. It is the tendency of progressing facility of movement, other things remaining equal, to lower rents by diminishing the differences in the cost of reaching markets. A familiar example is the fall of agricultural rents in England, due to that development of steamships and railroads which gave American wheat fields access to English markets. Something of the same sort has also taken place between the eastern and western states of this country. Agricultural rents in many parts of the east have gone down and farms ceased to be cultivated because the cheapening of railway movement has decreased the advantage of their situation.

This principle has an application to ground rents in cities that is important in view of the economic problems connected with such rents, and of the surprising progress of urban transportation. Street, elevated and underground railways, in proportion to their efficiency, tend to diminish ground rents by distributing city population and business over a wider area. This is particularly true in the matter of dwelling sites, which commonly seek as great a distance from the center as the means of getting back and forth will permit. As already pointed out,[1] it is the function of urban transportation to spread out the people, and in so spreading them out it reduces the rent, per unit of area, that they have to pay. It does this by enlarging the area of ground available for residence, increasing the supply of land in proportion to the demand.

The area of available land increases not simply with the efficiency of transportation, but in a much greater ratio. Suppose, for example, we consider simply the matter of speed in street railways. It is approximately true that the area available for residence increases as the square of the speed. Thus if by the

[1] Pages 64-5, 68.

construction of a system of underground railways with four tracks, permitting the running of express trains, the speed of travel in a given city becomes three times as great as before, the space over which population may be distributed becomes nearly nine times as great; or the city may have nine times as many people as before without becoming more crowded. On this far greater area the total ground rent would be no greater than on the original area of the city; and rents per rod or per foot would be only one-ninth of what they were before.[1]

The reason for such a relation between speed and area is found in the fact that quicker transportation, by increasing the distance at which people can live, increases the radius of the habitable circle, while the area of the circle, according to a familiar geometrical rule, increases as the square of the radius. Thus if a man can afford to spend half an hour in riding to his business at the center of the city, and the speed of cars is six miles an hour, he can live three miles from the center. The area of a circle whose radius is three miles is about twenty-eight square miles. If the speed is doubled, becomes twelve miles an hour, he can live six miles from the center. But the area of a six mile circle is about 112 square miles, just four times as great as before.

To analyze more closely the theoretical effect of improvements in transportation upon advantages of position, a simple diagram will be used. It will of course be understood that the problem is reduced to its lowest possible terms by the elimination of everything except the element of situation, and that a simplicity is given to it far removed from actual conditions. The theory is applicable not only to cities but to agricultural rents, in so far as they are determined by transportation.

Let O be the center of a city, AC its original diameter, and ac its diameter after the speed of transportation has been doubled. If other conditions remain unchanged, the total of rent (conceived as due solely to relative position) cannot be affected, only its local distribution.[1] If in the first instance, it

[1] That is if we assume, as it seems to me we may to simplify the discussion, that ground rents vary inversely as the supply of land, other conditions remaining the same.

was greatest at the center and diminished uniformly toward the circumference,—the simplest supposition,—its total may be represented by the volume of a cone, whose section would be the area of a triangle, as *ABC;* that is *BO* would represent the rent of a unit area of ground at the center, while at *A* and *C* rent would become nothing. When, by doubling the speed of movement, the city is extended to *a* and *c* the total of rent is the same, but its different distribution is indicated by the shape of a triangle *abc,* the section of a cone whose volume is the

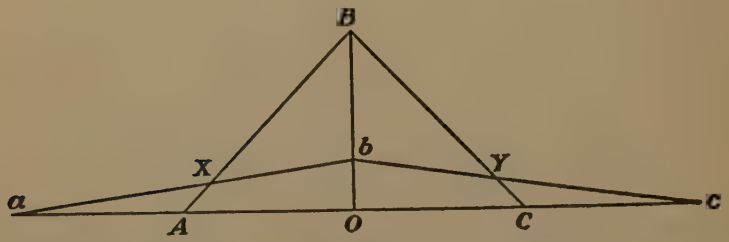

DIAGRAM ILLUSTRATING THE THEORETICAL RELATION OF TRANSPORTATION TO RENT

same as that of the cone *ABC.* (Since the circle that forms the base of this second cone has four times the area of that of the first cone, equality between the volumes of the cones requires that the height of the second be only one-fourth that of the first.) At the center, then, rent per unit area (represented by the height of the cone) is reduced to one-fourth of what it was before. Thence the change diminishes until at the intersections *X* and *Y* we have points where rents remain unchanged. Beyond *X* and *Y* they are higher than they were, while from *A* to *a* and from *C* to *c* rents are now paid where none were paid before.

This illustration may be more concretely grasped if one will imagine a conical lump of lead that is first of the shape *ABC,* and is then beaten out with a hammer into the shape *abc;* the lead is rent, the hammer improved transportation.

So far speed has been the only element of efficiency spoken of, but the same analysis is applicable to cheapness. Thus if we are considering the relation of an agricultural area to an

industrial center, and desire to examine the effect upon rents of a cheapening of movement, substitute in the foregoing "halving the cost" for "doubling the speed" and "area available for profitable cultivation" for "habitable area." The margin of cultivation corresponds to the outskirts of the city. Precisely the same geometrical relations hold.

This may be stated as follows: In so far as rents depend directly upon facility of access to a given center (whether facility be measured in time or in cost), they vary near the center inversely as the square of the efficiency of transportation (that is inversely as the square of speed, directly as the square of cost). The area of the rent-yielding circle, on the other hand, varies directly as the square of the efficiency of transportation.

XIV. THE POLITICAL RELATIONS OF TRANSPORTATION FURTHER CONSIDERED

I shall not consider in much detail those problems of the public regulation or control of transportation that are of so much present importance.[1] What I propose is only such a discussion as will show in outline their relation to the general theory of transportation. The wise practical solution of these problems depends principally, perhaps, on a minute and yet comprehensive statistical study of actual conditions; but it also depends on the formulation and acceptance of right general principles concerning the degree and manner in which political authority can and should change those conditions.

My standpoint as to the general theory of the relation of governments to industry will be that which appears, in fact, to prevail at the present time; namely, that competition is the best available regulating force in most kinds of industrial activity, but that it is not necessarily nor always good, and may require either to be altogether suppressed in certain cases or more or less stringently regulated for the public good. Individual enterprise is chiefly relied upon for progress, and those who propose to substitute government control for it must show

[1] Though still important problems to-day, much has been done in the attempt to solve them since this was written in 1894. [Ed.]

a probability of benefit from the change; but when the probability is tolerably clear it ought to be acted upon. As economic organization becomes more complicated and the various parts more interdependent, it constantly happens that the securing of general freedom demands particular regulation.

The subject will naturally divide itself into two parts. In the first I shall try to show that transportation is a highly organic activity, requiring to be conducted according to a comprehensive plan and by unified instruments and methods. For this reason it is and must be effected through associations, public or private, whose size and degree of organization correspond, in a general way, to the magnitude and degree of organization in the means of transportation. In the second I shall briefly consider the expedient division of transportation functions between the state and private associations at the present time.

Much confused thought about transportation arises from the failure adequately to grasp the fact that it is a distinct social function. It is not agriculture, nor manufacture, nor trade; it is something having a distinct character of its own, quite apart from these. The unconscious assumption that it is an industry essentially like other industries should be got rid of. Such an assumption implies a failure to get to the social point of view, from which it appears that this is one of several fundamental social processes.[1] It is an agency by which every part of society is brought into relation with every other, and interdependence, specialization, in a word, organization, made possible. It is not merely an industry larger than others, but it is quite a different sort of thing.

Not only does transportation hold this peculiar position as the physical basis and instrument of social organization, but it is itself, from one point of view, the highest example of that organization. As the political state is the most conspicuous instance of social unification in its higher or moral form, so transportation is the most conspicuous instance of it in the lower or physical form.

Take for example the simple and primitive case of one of

[1] For its sociological character, in general see p. 40.

those military roads of the Romans or the ancient Peruvians. Such a road is, in its simplest aspect, a long strip of ground devoted to a public end, namely, social consolidation through military power. It is a unified instrument; that is, it is continuous and laid out upon a definite plan. Any one part of it is nothing without all the rest. If a single mile is impassable there might as well be no road at all. And to get the most good out of it, it must be used by uniform methods, that is, by vehicles peculiarly suited to it, perhaps by a regular military post. Uniformity in vehicles and methods, however, comes more to the fore in the later development of transportation. A uniform way is the earliest, always the most obvious, example of the general or organic character of transportation.

Pass now to the present and consider a railroad, or better a system of railroads. The continuous strip of ground remains, but upon it has been developed an elaborate strip of uniform structure. The gauge of the tracks must be everywhere the same, and the curves, grades, strength of bridges, height of tunnels and the like, must be adjusted to the same general requirements of traffic. Uniformity of structure extends to the vehicles. These must all couple with one another, and so must have couplers in the same position. The air brakes and the continuous heating arrangements must also be uniform in their appliances. So with the signalling arrangements of all sorts. They should be uniform in order that they may be generally and readily understood.

A still more elaborate adjustment is necessary in methods—arrangements for the interchange of cars and freight, for the connection of passenger trains and the issue of through tickets. And the widest unity, the most advantageous and economical organization, requires that rates over a whole country be determined in accordance with some wise and comprehensive plan, to the common end of the efficient performance of the social function of transportation.

As to this matter of organization there is a notable difference between movement by sea and by land. In the latter the earliest and most conspicuous instance of physical unity is the way—a uniform and continuous strip of land devoted to this purpose. This unified way is the basis of much of the

need of unity in a farther development; because the way must be uniform, the vehicles and arrangements must be so likewise. By sea, as already pointed out, there is, as a rule, no way in the sense of a specialized or artificial path. It is chiefly for this reason that maritime transportation never required that minute and detailed organization, on the physical side, that is characteristic of railroads. It is for this reason, also, that competition in maritime conveyance is more practicable than on railroads.

These remarks apply in a much less degree to inland than to maritime waters, to canals hardly at all (from the present point of view these are rather to be regarded as a form of land conveyance), to rivers and lakes only in so far as they perform a different function from that of land transportation. In so far as they serve the same purpose, are capable of competing with it, they are part of the same system and should be treated on like principles.

From this organic character of transportation as a physical agency necessarily follows an organic character in the means of carrying it on. It must be accomplished by associated power and wealth, public or private, of the state or of voluntary associations. Throughout history it has been one of the principal concerns of government,—extremely important, indeed, both as cause and effect of the existence of governments. It has been equally important as a motive for private organization, particularly in the present century, when the largest and most complex development of private corporations takes place in connection with transportation.

This statement will hardly be disputed by one who has followed the discussion to this point, but some illustrations may make its meaning clearer.

The question of constructing a local earth road is typical. A road is to be built which is necessary to the agriculture or trade of 1,000 persons. It passes through ten farms. Strict application of the individual principle would require that each farmer make, or refuse to make, the road upon his own premises. Two facts are evident: that though he will have to build one-tenth of the road he may get only one-thousandth the good of it; and that even were he so public-spirited as to do

this, his work would be useless unless the other nine farmers were of the same mind. As an individual he lacks both the motive and the ability to do anything about the matter. It must be and is done through associated action. This example sets forth a principle that operates not only between the individual and a small community, but between small communities and large, between the general and local governments of a federated nation, between private corporations and the state, between small private corporations and large ones.

We note its operation in the case of the more important country roads. It is a fact of familiar experience in our American communities that a main road, one which is of importance to a whole county or even to a whole state, will not be maintained in a manner corresponding to its importance if its maintenance is left to the townships or other small political divisions. These last, like the farmers in the previous case, have neither interest nor power adequately to meet the general need for a costly highway. No one of them will or should bear more than its share of the general expense; and even if disposed to do this, it cannot unless all the others through which the road passes consent to do likewise, and do it in accordance with some plan agreed upon. These conditions of unity and uniformity require, as a matter of fact, that the construction of roads whose importance is general should be undertaken by the general authority, the county or the state.

Just so between the states and the federal government of our union. No question in connection with the public control of railways is more fundamental than that of the proper boundaries between federal and state control. The general answer to it is that in all those matters in which railroads are or should be a unified and interdependent whole, an organization, their control must be unified and general. In those matters that are local in the sense that uniformity in them is of no great importance, the control may properly be left to the local authority. The tendency of the control of railroads to pass from state to federal authorities is the natural and necessary consequence of increasing organization in the railroads themselves.

Turning to private corporations we notice here also the general operation of the principle that increasing organization

in transportation requires a corresponding extension of the agencies that undertake and direct it. The rapid progress of consolidation, of the superseding of small corporations by great ones, is the necessary accompaniment of greater unity in the conduct of railways, and rests primarily upon the fact that transportation is something that requires a general organization. A small corporation owning and operating a short piece of some great highway of railway traffic, is situated very much like a farmer through whose farm the high-road passes. Its local interests and powers are quite inadequate to the carrying out of those large and uniform operations required for the economical conduct of a great through traffic.

A similar relation holds between private corporations, large or small, and the state or nation. Representing only a small part of the citizens (and them, perhaps, very imperfectly, since it is not uncommon for officers to misuse the confidence of stockholders), the largest of them controlling only a small fraction of the total means of transportation, it is always possible that private corporations may be conducted in a manner hostile to public policy. This hostility may arise either from imperfect organization, or from organization to a wrong purpose. It may consist in a lack of unity, uniformity and subordination to right general principles of operation and rate-making which obstructs the efficient performance of the function of transportation, and is injurious not only to the public but to the stockholders; or it may consist in the misuse of efficient means in such a manner as to make the public suffer to benefit the corporations. Contrary, perhaps, to the general impression, the chief evils actually arising are of the former character. They are such as injure both the public and the general interests of transportation as a business. Particular corporations benefit, or try to benefit, at the expense of others, with the general result that all suffer. The difficulty is in imperfect organization.

The results of the analysis, to this point, may be summed up as follows:

The development of transportation requires general agencies, —associations, political or private, rather than individuals; great associations rather than small ones. This is a reflection

of the fact that transportation, being a fundamental and general process, pertaining to society as a whole rather than to any particular part of it, must have a high degree of organization; that is, must be carried on with general aims, by unified instruments and uniform methods.

So much for the organic character of transportation and the requirement of associated control. We now reach the question whether private associations or the state should exercise this control, or how it should be divided between them.

This is eminently a question whose answer must be relative to political character and development. There is no general solution; different times and countries require a different policy. In the form that the problem takes in the nineteenth century it is entirely new, since nothing corresponding to the present development of private industrial associations was ever known before. It is also quite a different problem in the United States and in other countries. Here private enterprise and corporate wealth have been found ample for the construction of railways as fast as they were needed. If anything there are too many. In many countries of Europe, on the contrary, the state was obliged to build the railways because of the deficient enterprise of private associations.

We may approach the problem as it presents itself in the United States by inquiring what, in general, are the advantages of public and private control.

In the conduct of any enterprise the state enjoys the advantages belonging to an association of the widest extent and the amplest power and prestige. In a function requiring an organic unity, like transportation, this is much. The state is in a position to give that unity and uniformity of aims, methods and equipment that is so important a part of organization.

Its weakness is in the nice adjustment of its operations in detail, and in the lack of those simple and comprehensible motives of personal advantage that control private business. The business motive, the hope of private gain, gives to private industrial associations the strongest inducement to conduct all their operations economically and with a careful adjustment to the industrial needs of the community. In the case of the

state this business motive is so generalized and attenuated as almost to disappear. The fact that public business is less economically managed than private follows from the lack of the particular and definite motive of private gain in those who conduct it.[1] It is true that private enterprises are not always conducted in the best manner from the business point of view, and that public enterprises sometimes are; but no one will question that the fact in general is as stated, or that there is good reason for it. A study of public works, and especially works of transportation, undertaken by states, will unquestionably, I think, show that not only at the present time but throughout history such works have been carried out with a certain disregard of economy and of detailed conditions in general. The Roman roads and aqueducts, in their imposing but often entirely unnecessary solidity, magnificence and straightforward contempt of natural obstacles, are typical.

The advantages and disadvantages of private associations are, of course, just the reverse. They are organized expressly to secure the most economical and profitable adjustment of capital and labor power to industrial conditions. Though the problem of the organization of great corporations is a difficult one, and the interests of the stockholders are often imperfectly represented by the officers; yet as business associations they enjoy an enormous advantage over the state, which is not only far larger and more complex, but is organized primarily for a different purpose and only undertakes business incidentally. They therefore adjust themselves more readily and carefully to the details of the question how to do the greatest business at the least expense. They lack, however, the reach and coercive authority to bring about unity of aims and methods wherever that would be advantageous.

This may all be expressed as follows: Organization in industry has two sides, the side of unity and that of detail or specialization. On the former the state has some great advantages; on the latter private associations are much superior.

[1] I do not assert that this difference in detailed efficiency must always exist, only that it does exist and is rooted in the principles of association—not a matter merely of official corruption or incapacity. Yet I think that it is abnormally great with us at the present time.

It follows from this general state of things that those industrial activities are best suited to the state that are universal and uniform in their aims and methods, but simple in detail,—have a great need of unity and little of specialization. This is the real basis of public conduct of such enterprises as streets and highways, the post, water-works and the like. These serve universal needs and require to be designed and conducted in a uniform and comprehensive manner, but require little nice adjustment to particular conditions, involve no complex business problems. Streets and highways are free and almost the only business in connection with them is that of keeping them clean and in repair. The post and water-works sell their products, are in a sense commercial, but the former has only three or four prices, determined by simple and universal rules, and the latter only one.

The business of transportation unites the requirement of the widest unity with that of very great complexity of detail. It is here held unquestionable that the railroad system of a country should be unified throughout in its instruments, its methods, and particularly its rates; that these should be, not indeed all alike, but intelligently adjusted to one general plan. But there is also everywhere required a close study of and adaptation to particular natural and economic conditions. It is the most organic of all industries, and as such is both unified and complex.

The question of what the state should do with regard to railroads may be considered either as to their location and construction, or to their operation when constructed. The opinion here advanced is that, in view of the preceding analysis, a country having the history and the present economic structure of the United States, would better leave both of these processes to the enterprise of private associations, subject to a control more or less detailed and stringent as experience may indicate. It is certainly the spirit of our institutions to give private initiative the benefit of the doubt in all questions relating to the conduct of industry, and in the case of railways there appears to be very great doubt whether public construction and operation would be expedient.

It seems to me improbable that the railroad system of this

country would be so well laid out and constructed at the present time had this been done by either state or federal agency. Doubtless many mistakes have been made, but the matter has been in the main determined wisely by individuals who have carefully studied the natural and economic conditions of railway building with a view to their own profit. It is true, in a general way, that a road that will pay well is well located from the public as well as from the private point of view.

During the thirties, soon after the first railroads were built in England, a number of American states experimented, more or less extensively, with public construction. Among these states was Michigan, where a system of internal transportation was designed and partly carried out, which consisted chiefly of three railroads and one canal extending on nearly parallel lines across the state.[1] Each of these four lines of transportation passed about through the center of one of the four lower tiers of counties in the state, the design apparently being to secure public support to these works by distributing them uniformly. It is possible that this is typical of a principle that, in this country at least, would largely influence the construction of new railroads by political agencies.

The question is somewhat different when railways are once constructed, but here also I think that all the details of equipment and operation, even of rate-making, are better organized now than they would have been by exclusively public action. The hope of private profit has everywhere been the strongest force making for economy and improvement of all sorts.

The real railroad problem in the United States appears to me to be that of the aims and methods of public control, rather than the question between public and private ownership and operation. The traditional policy of the nation, the rooted aversion of the people to the unnecessary aggrandizement of government, the splendid results which, in spite of great and unquestionable evils, have been achieved under private ownership and operation; these and similar considerations must long cause the question of the national purchase or operation of railways to remain a speculative one. A policy of control will

[1] See the map in Tanner, *Canals and Railroads of the United States* (1840).

be preferred as more elastic, permitting the trial of various methods, more in agreement with historical tendencies, and more probable of success.

The first aim of control is publicity. This underlies all else, is the indispensable condition of any successful public intervention whatever. It consists in collecting, arranging, analyzing and communicating all those facts which throw light upon any matter with respect to which a question of control arises. There is required an adequate body of trustworthy information, collected and arranged in a uniform manner, and so presented as to yield its meaning as readily as possible. Publicity is not attained until facts are not only collected but communicated.

To begin with the facts themselves, publicity requires that the accounts of private associations carrying on transportation be trustworthy, and be kept throughout the country upon a uniform plan. The work of public statistical bureaus rests upon that of private accountants, and as long as the latter is diverse and unreliable the former can accomplish little. Public statistical agencies should have authority not only to prescribe forms of report to railroad companies and the like, but also to see that the facts in these reports are really prepared and inserted in a conscientious and scientific manner. The auditor's office of an important railroad is itself a statistical bureau of great extent, and it should be organized and conducted in the interest of publicity. There can be no sufficient knowledge of transportation, no adequate basis for deciding questions of regulation, so long as the work of these offices can be manipulated to private ends.

Public statistical bureaus connected with transportation have had a rapid growth since 1870, and a far greater growth undoubtedly awaits them. They should have power and means sufficient for their work and an adequate body of scientific statisticians, not only trained in the details of their work, but capable of comprehending the vast forces and interests upon which statistical development rests, and of guiding that development in the best manner. There needs also a severer and more detailed criticism of work of this character on the part of the public, in order that the bad may be detected, the good

appreciated, and statistics relieved from the reproach of slovenly and unscientific methods.

Aside from publicity the aims of control are, in general, two: to further a better organization of transportation, and to control the end or purpose of organization. The aim may be to benefit both the public and the private interests in transportation through a better adjustment of forces, or to prevent the public interest suffering to benefit the private. The former aim is the more important and embraces most of the practical problems of control. Rightly understood the case is not so much that of the public *versus* the railroads, as that of the public and the railroads *versus* disorganizing private interests.

The problem of control relates chiefly to those matters requiring a wider and more perfect unity, a better coördination of instruments and forces.

Thus, on the side of physical apparatus, the matters in which the need of government intervention is most felt are those in which uniformity is necessary. The general adoption of automatic couplers on freight cars, for example, is impossible without general agreement upon a uniform type of couplers, each of which will couple with every other. Moreover no individual railroad has an adequate motive to fit its cars with them unless other railroads are to do the same. Railroad companies acting singly are quite unable to effect this reform; and this fact, admitted on all hands, has been the basis of national legislation on this and similar matters.

The same general principle holds with reference to unity of methods, of arrangements, particularly of rates. Efficient organization requires not indeed a mechanical uniformity, but that unity in diversity that results from adjustment to a common aim. As to the management of passenger and freight trains, the issue of tickets and bills of lading, and the like, the railroads of a country should make but a single system, an organized whole in which all should be done with reference to the general requirement of efficient transportation. At present it is not so; a considerable degree of unity has been attained, but much diversity and working at cross purposes remains.

In the matter of rates there is both the greatest need and

the greatest difficulty of organization. Here a chief evil is competition in rates, a distinctly disorganizing force. It is here held that railroad competition, in the sense of competitive rate-making at a comparatively few important points of shipment, has no permanent and legitimate economic function within a railway system; that is it is justifiable, if at all, only on the ground that the time is not ripe for better organization. Those who have followed the chapter on the theory of rates will readily understand the grounds of my opinion that such competition is hostile to any adjustment of rates consistent with public policy. Competition among the parts of what should be an organized whole, in which each part has its own particular work to do different from that of every other part, is something without a rational basis; it is simply confusion and disintegration.[1]

All over this field public control should be felt as a unifying force, working either through authoritative interference, or through publicity, which by discovering the existence and character of disintegrating forces often insures their suppression. Uniformity in equipments and methods should be urged and, when necessary, enforced. With particular fitness may public authority be called in to prevent a few recalcitrant private associations from hindering reforms that the great major-

[1] I hold that there are two independent grounds for the fact, generally recognized, that competition is inadequate to the regulation of the prices of transportation. The first is that hinted at above, namely, the organic character of the industry. In proportion as any activity is organic, in the sense already explained, it is unsuited to competition. Competition means two forces trying to do the same thing; organization means that every force has a special work of its own. This is practically identical with the law of increasing returns, first advanced, I believe, by Professor Henry C. Adams (*Publications of American Economic Association,* i, 523, *et seq.*), to explain the failure of competition in certain industries. An industry is subject to the law of increasing returns when it is susceptible of a high degree of organization. The amount of capital that will yield the greatest proportional return corresponds to the degree of specialization and unification of forces that the nature of the industry permits and requires.

The second ground is found in the familiar principle of natural monopoly. Railroad transportation cannot be sent to market but is fixed in place. The cases where two or more railroads offer equivalent transportation at the same place are and must be exceptional. Those who still hold out for the sufficiency of competition are driven back upon such (in my opinion) absurd schemes as that of competition among private trains upon the same tracks.

ity are ready to adopt. In such cases the principle of interference is analoguous to the exercise of the right of eminent domain in constructing a road. The government supplies that coercive element that is necessary to prevent a small minority of interests frustrating the just and proper aims of the whole.

Public control cannot advance far without holding in view some general theory of rates, such for example as that previously put forth in this essay, and working steadily toward it. The commissions, the legislatures and other public agencies cannot regulate railway charges to much purpose unless they themselves know what those charges ought to be. They may, perhaps, dispense with a minute knowledge of details, but in default of comprehensive principles to work upon, their labors must fail. A theory of rates is not a subject of vague and useless speculation, but is the practical need of the hour. The lack of any definite policy reduces public activity to mere criticism.

Perhaps only one point in the theory of rates is at present generally agreed upon—that there should be no discrimination among persons. This is, to be sure, the most important principle of all, and the work of surmounting the well known practical difficulties that obstruct its application should certainly be pushed to a successful conclusion.

To this should be added the principle that railroad competition for the business of large cities is a disorganizing element, inconsistent with the just or efficient performance of the function of transportation, and should cease to exist. The railroad industry is essentially organic, and in it the principle of unity must and should prevail. Its introduction should be not only permitted but encouraged and enforced. What is wanted is some form of combination that shall be stronger, more permanent and more comprehensive than pools ever were or could have become. Merely voluntary associations, of limited scope and subject to dissolution whenever any member becomes dissatisfied, cannot meet the problem. Efficient railway organization must be associated with public control, yielding to it the power of ample and minute regulation and deriving from it a

coercive authority over disintegrating elements within itself. The public control is needed to ensure that the enormous power of such a combination shall not be turned against the general interest. It is also needed because without some coercion over the members no permanent and effective combination would be possible.

But it would be a mistake to imagine that the railroad problem would be solved by doing away with personal discriminations and by the unification of transportation under public control. There would still remain the most complex question of all, the adjustment of rates among different places and different commodities. It cannot be said that any definite and comprehensive principle concerning this adjustment has yet been announced in legislation. The famous long and short haul provision of the Interstate Commerce Act and of many acts of state legislatures is not so much a principle as a rule of thumb, the setting of an extreme limit to the degree in which rates may disregard distance. It is negative rather than positive and only determines what, in certain cases, rates must not be, not what they must be. It can hardly be called a contribution to the theory of rates, however useful as a practical limitation.

In any case, therefore, the formulation of a comprehensive theory of rates and the cautious but persistent application of it by the exercise of public authority, is indispensable. The question will no more settle itself under public than under private control, though the application of a principle once adopted will be easier. The aim of public control is the more perfect organization of equipment, methods and rates. Unification is desirable as the necessary condition of this better organization, rather than as an end in itself.

The question whether transportation should be controlled by local or general political authorities depends upon the extent of organization in the particular kind of transportation in question. Thus, street railways are best controlled by the cities whose local needs they serve; small country roads may be left to townships or other minor authorities; those of more general importance to the counties, while the state itself should

care for the chief highways. And, as pointed out a few pages back,[1] the regulation of rail and water transport should be divided between the state and federal authorities.

Such questions as those of the precise character and powers of commissions and other political agencies charged with the regulation of railroads hardly belong to the theory of transportation. They belong rather to the theory and practice of administration.

[1] Page 107.

GENIUS, FAME AND THE COMPARISON OF RACES

III

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Genius is that aptitude for greatness that is born in a man; fame is the recognition by men that greatness has been achieved. Between the two lie early nurture and training, schools, the influence of friends and books, opportunities, and, in short, the whole working of organized society upon the individual. One is biological, the other social; to produce geniuses is a function of race, to allot fame is a function of history.

The question I propose to consider is, What is the relation between these two things? Does genius always result in fame? If not, why not, what determines whether it shall or shall not do so? These, in a general way, are the inquiries which suggest themselves, and which one would like to answer. I shall be well content if, without attempting to answer them fully, I can bring forward facts of reasoning that shall throw any light upon the matter whatever. That the question is a great one I think no one will doubt for a moment. It is a part of that larger question which is, from one point of view at least, the very root problem of sociology, of history, perhaps of psychology, the question, that is, of the mutual relations between the individual and the social order, of how society makes the man and of how the man makes society. Although the "great-man-theory" of history, as taught by Carlyle and others, may not be entirely tenable, yet it is quite plain that recent studies in imitation, suggestion and the like have established more firmly than ever the fact of the momentous influence of remarkable men upon the progress of mankind.

One who wishes to work at this subject in as exact and

[1] Published in the *Annals of the American Academy of Political and Social Science,* IX, No. 3 (May, 1897) pp. 1-42. This monograph is the first, and by many considered the ablest, general answer to those portions of Galton's *Hereditary Genius* which belittle the influence of social factors in the rise of a man of genius to fame.

verifiable a manner as its nature permits may well start, I think, from the writings of Francis Galton, and particularly from his great work on *Hereditary Genius*.[1] In this book the author, though concerned primarily with heredity, has found it necessary to his purpose to formulate roughly and to defend a theory of the relation between genius and fame. This theory, which I shall presently elucidate by ample quotations, may be stated, so far as it is capable of brief statement, somewhat as follows: Fame—on the whole, and reserving the right to allow for special conditions—is a sufficient test of genius. Fame can seldom be attained without genius, and genius as a rule achieves fame. Social conditions, though sometimes important and occasionally decisive, may on the whole be regarded as disturbing forces, not at all comparable in influence to natural capacity. This is so far the case that the number of illustrious men a race is capable of producing from a given population may be used as a criterion of the ability of the race, and upon this basis comparisons may justifiably be made between races so remote from each other as the ancient Athenians and the modern English.

I am led by a study of the facts in the case to uphold the following somewhat different theory—for which, however, I claim no originality. Every able race probably turns out a number of greatly endowed men many times larger than the number that attains to fame. By greatly endowed I mean with natural abilities equal to those that have made men famous in other times and places. The question which, if any, of these geniuses are to achieve fame is determined by historical and social conditions, and these vary so much that the production of great men cannot justifiably be used as a criterion of the ability of races except under rare and peculiar circumstances hereafter to be specified.[2]

[1] Galton's later writings contain, I think, no essential modification of the views set forth in *Hereditary Genius*.

[2] Views more or less like this have been advanced by various writers; but I do not know that any one has treated the matter at length or answered Galton's arguments so much in detail as I have attempted to do in this paper.

Among the most important writings touching upon the subject are the article by Professor William James, entitled "Great Men, Great Thoughts

My view of the relation between genius and the social order may perhaps be made clear by the following comparison: Suppose a man, having plowed and cultivated his farm, should take in his hand a bag of mixed seeds—say wheat, rice, Indian corn, beans, and others—and should walk straight across his land, sowing as he went. All places on his path would be sown alike: the rocks, the sandy ground, the good upland soil, the rich mold in the hollows, the marshes, and whatever other sorts of soil there might be. All would be sown alike, but there would be a great variety in the result when the harvest time came around. In some places nothing would come up at all. In the sand perhaps only the beans would flourish, in the marshes only the rice, and so on; while some generous soils would allow a variety of plants to grow side by side in considerable vigor. Something like this, I think, is the case with a stock of men passing through history. A good stock probably produces remarkable children with comparative uniformity, but of these only a few become famous men, and these few, instead of being evenly distributed, appear in groups, now of one sort, now of another, now of several sorts.

Before giving Galton's views at length let me point out that the question whether the production of great men is a fair criterion of race, together with the comparisons based upon the supposition that it is, is a side-issue, possibly an after-thought, in *Hereditary Genius,* and in no way involves the main thesis of that work, which is that genius may be transmitted by heredity. I imagine that no one who reads the book will question that this thesis is fully proved. It would be strange, however, if the subordinate propositions were as carefully thought out and thoroughly established as the main one.

There is a good deal of statistical reasoning in Galton's work that is not essential to the present discussion. It will be enough to call to mind the fact that he supposes mankind, or any particular race of men, to be classified according to natural gifts in sixteen classes or grades, as follows, beginning with the

and the Environment," in the *Atlantic Monthly* for 1880, page 441, and the replies to it by John Fiske (1881, page 75) and Grant Allen (1881, page 371).

Lombroso's *Man of Genius* contains, of course, much interesting matter bearing on this question. See especially Part II.

highest grade and ending with the lowest: X—G-F-E-D-C-B-A-a-b-c-d-e-f-g—x. Of these B, A, a and b are the mediocre classes, and of course the most numerous; F and G include only men of very great abilities; X embraces all higher grades; F, G and X together including only about two hundred and fifty men in a million; f and all below are idiots.

From Chapter IV, which takes up the question, "Is reputation a fair test of natural ability?" it will be necessary, and I am sure interesting, to give somewhat extended quotations. The author first defines the meaning of the question:

> Let it clearly be borne in mind, what I mean by reputation and ability. By reputation, I mean the opinion of contemporaries revised by posterity—the favorable result of a critical analysis of each man's character, by many biographers. I do not mean high social or official position, nor such as is implied by being the mere lion of a London season; but I speak of the reputation of a leader of opinion, of an originator, of a man to whom the world deliberately acknowledges itself largely indebted.
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> By natural ability, I mean those qualities of intellect and disposition, which urge and qualify a man to perform acts that lead to reputation. I do not mean capacity without zeal, nor zeal without capacity, nor even a combination of both of them, without an adequate power of doing a great deal of very laborious work. But I mean a nature which, when left to itself, will, urged by an inherent stimulus, climb the path that leads to eminence, and has strength to reach the summit —one which, if hindered or thwarted, will fret and strive until the hindrance is overcome, and it is again free to follow its labor-loving instinct. It is almost a contradiction in terms to doubt that such men will generally become eminent. On the other hand, there is plenty of evidence in this volume, to show that few have won high reputations, without possessing these peculiar gifts. It follows that the men who achieve eminence, and those who are naturally capable, are, to a large extent, identical.
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> I believe, and shall do my best to show, that if the "eminent" men of any period had been changelings when babies, a very fair proportion of those who survived and retained their health up to fifty years of age, would, notwithstanding their altered circumstances, have equally risen to eminence.

To support this view he relies chiefly upon three arguments:

> 1. That men who are gifted with high abilities—even men of class E—easily rise through all the obstacles caused by inferiority of social rank.

2. Countries where there are fewer hindrances than in England, to a poor man rising in life, produce a much larger proportion of persons of culture, but not of what I call eminent men.

3. Men who are largely aided by social advantages, are unable to achieve eminence, unless they are endowed with high natural gifts.

Concerning the first point he remarks:

Now, if the hindrances to success were very great, we should expect all who surmounted them to be prodigies of genius. The hindrances would form a system of natural selection, by repressing all whose gifts were below a certain very high level. But what is the case? We find very many who have risen from the ranks, who are by no means prodigies of genius; many who have no claim to "eminence" who have risen easily in spite of all obstacles. The hindrances undoubtedly form a system of natural selection that represses mediocre men, and even men of pretty fair powers—in short the classes below D; but many of D succeed, a great many of E, and I believe a very large majority of those above.

If a man is gifted with vast intellectual ability, eagerness to work, and power of working, I cannot comprehend how such a man should be repressed. The world is always tormented with difficulties waiting to be solved—struggling with ideas and feelings, to which it can give no adequate expression. If, then, there exists a man capable of solving these difficulties, or of giving a voice to these pent-up feelings, he is sure to be welcomed with universal acclamation. We may almost say that he has only to put his pen to paper, and the thing is done. I am here speaking of the very first-class men—prodigies—one in a million, or one in ten millions, of whom numbers will be found described in this volume, as specimens of hereditary genius.

In speaking of "countries where there are fewer hindrances than in England" Galton has in mind the United States. He points out that:

The Americans have an immense amount of the newspaper-article-writer, or of the Member-of-Congress stamp of ability; but the number of their really eminent authors is more limited even than with us. I argue that, if the hindrances to the rise of genius were removed from English society as completely as they have been removed from that of America, we should not become materially richer in highly eminent men.

In this connection he urges with great vigor that while common men require sympathy and other favorable circumstances to induce them to put forth their energies, the generality of those who have gained great reputations are

haunted and driven by an incessant instinctive craving for intellectual work. If forcibly withdrawn from the path that leads towards eminence, they will find their way back to it, as surely as a lover to his mistress. They do not work for the sake of eminence, but to satisfy a natural craving for brain work, just as athletes cannot endure repose on account of their muscular irritability, which insists upon exercise. It is very unlikely that any conjunction of circumstances should supply a stimulus to brain work commensurate with what these men carry in their own constitutions. The action of external stimuli must be uncertain and intermittent, owing to their very nature; the disposition abides. It keeps a man ever employed—now wrestling with his difficulties, now brooding over his immature ideas—and renders him a quick and eager listener to innumerable, almost inaudible teachings, that others less keenly on the watch, are sure to miss.

The proposition that social advantages without high natural gifts will not enable a man to achieve real eminence Galton supports by an ingenious argument, which I omit in the belief that the fact will not be seriously questioned.

A youth of very great abilities, Galton asserts, is almost independent of ordinary school education. The best care that a master can take of him is to let him alone, just directing a little here and there, and checking desultory tendencies.

. . . the most illustrious men have frequently broken loose from the life prescribed by their parents, and followed, careless of cost, the paramount dictation of their own natures; in short, they educate themselves. D'Alembert is a striking instance of this kind of self-reliance. He was a foundling (afterward shown to be well-bred as respects ability), and put out to nurse as a pauper baby to the wife of a poor glazier. The child's indomitable tendency to the higher studies could not be repressed by his foster-mother's ridicule and dissuasion, nor by the taunts of his schoolfellows, nor by the discouragements of his schoolmaster, who was incapable of appreciating him, nor even by the reiterated deep disappointment of finding that his ideas, which he knew to be original, were not novel, but long previously discovered by others.

Moreover,

A prodigal nature commonly so prolongs the period when a man's receptive faculties are at their keenest, that a faulty education in youth is readily repaired in after life.

This is illustrated by the case of Watt, whose general education was acquired after he was advanced in years, and also by that of Julius Cæsar Scaliger.

> The scholar who, in the eyes of his contemporaries and immediate successors, made one of the greatest reputations, as such, that any man has ever made, was Julius Cæsar Scaliger. His youth was, I believe, entirely unlettered. He was in the army until he was twenty-nine, and then he led a vagrant professional life, trying everything and sticking to nothing. At length he fixed himself upon Greek. His first publications were at the age of forty-seven, and between that time and the period of a somewhat early death, he earned his remarkable reputation, only exceeded by that of his son.

These observations are to be understood as applying only to literary men and artists, who, however, form the bulk of those that attain to eminence. In the case of statesmen, commanders and demagogues, Galton admits that great weight must be allowed to social advantages and the accident of being born at an opportune time. I need not dwell upon this, however, as I propose to deal chiefly with those careers which he himself looks upon as affording the strongest support to his argument. In conclusion,

> I see no reason to be dissatisfied with the conditions under which I am bound, of accepting high reputation as a very fair test of high ability. . . . I feel convinced that no man can achieve a very high reputation without being gifted with very high abilities; and I trust I have shown reason to believe, that few who possess these very high abilities can fail in achieving eminence.

From these quotations the reader can judge for himself whether it is not a fair description of Galton's theory to say that he holds social and historical conditions to be no more than disturbing forces in the career of genius. They may hasten or retard its success, but on the whole "few who possess very high abilities can fail in achieving eminence." That this is really his position must also be inferred from the fact that in another chapter, which I shall take up later, he estimates the comparative worth of different races on a basis of the number of great men they produce, without any attempt to compare their histories, or take account of their actual state of social

development. Exceptions are here and there admitted, as, for instance, where he says that the Negroes in the United States have not had a fair chance to compete with the whites, but as to the general tenor of the book there can, I imagine, be no question.

Now let us first of all inquire what the facts and arguments quoted really show, supposing that we admit their general truth and reasonableness. They show that some men of genius can and do rise from a rather low rank of life—such as that in which d'Alembert passed his boyhood—and attain celebrity at an early age. This, I think, is nearly all that is shown: at any rate I wish to point out the following deficiencies in the reasoning:

1. It is not proved, or even claimed, except by inference, that there do not exist hindrances, greater than those surmounted by d'Alembert and others cited by Galton, which act as an effectual bar to genius. I shall give reasons for believing that such hindrances do exist, that they are effectual, and that they operate upon a large part of the population.

2. It is not shown, except by questionable *à priori* reasoning, that the ability to surmount ordinary social obstacles, proved to exist in certain cases, can be presumed to exist in men of genius as a class.

3. Finally, and most important omission of all, there is nothing to show that the ripening of genius into fame is not so far a matter of historical development—apart from the question of race—that race can at most be regarded as one of several equally important factors that must unite in the production of distinguished men. If this last be the case it follows that to estimate the worth of races merely by a count of famous men and without a comparison of their history and social organization, is a quite unjustifiable proceeding.

In the discussion that follows I shall give the grounds for my opinion that these omitted propositions not only are not established but cannot be, and that in fact the reverse of each one of them is true.

It does not seem to me that Galton is altogether convincing in the examples he cites to show that genius is superior to social hindrances. What is said of d'Alembert is, of course,

true, but it should perhaps be added that his father, although not disclosing himself, recognized the child's natural claims by settling upon him in infancy an annuity of 1200 francs; also that the son was sent to school at four years of age. A boy brought up by a kind foster-mother, in the principal centre of European culture, and with this income to give him a start, can scarcely be said to have labored under excessive social disadvantages. The case of Julius Cæsar Scaliger would indeed be remarkable if it could be shown that he was entirely illiterate in his youth, commenced the study of medicine at twenty-nine or later, and finally at middle age took up classical learning and became a famous scholar. If this were true it would be the only case I remember to have met with in which a man, grown up in illiteracy, afterward acquired fame as a scholar or a man of letters; and I doubt whether other cases can be produced. Galton's phrase "entirely unlettered" may mean no more than that he had a merely elementary education; but the facts, as gathered from the more accessible books of reference, seem scarcely to sustain the opinion that he was entirely unlettered in any sense. The *Encyclopedia Britannica* says—apparently quoting an account derived from Scaliger himself—

> At the age of twelve he was presented to his kinsman, the emperor Maximilian, and placed by him among his pages. He remained for seventeen years in the service of the emperor, following him in his expeditions through half of Europe, and distinguishing himself no less by personal bravery as a soldier than by military skill as a captain. But he was unmindful neither of letters, in which he had the most eminent scholars of the day as his instructors, nor of art, which he studied with considerable success under Albert Dürer.

It appears, however, that Scaliger's own account of his youth, and the only one which gives details, is regarded as quite untrustworthy. *Chambers' Encyclopedia,* Michaud and others agree upon this point. The *American Encyclopedia* says,

> He claimed descent from the Scaligeri (or family Della Scala): sovereign princes of Verona from 1260 to 1367, and asserted that he began his classical and medical studies when he was between thirty and forty years old. This story has been disproved by Scipio Maffei and Tiraboschi. The latter says he was the son of an illuminator of Venice, a native of Padua, named Benedetto Bordone, and that the son studied at Padua in his youth.

This false account of himself is ascribed to his vanity, which is known to have been extreme. On the whole I think I am justified in counting Scaliger's case out.

Is there, then, any form of social hindrance or disqualification that operates at all widely and effectually to prevent men of natural genius from achieving literary fame? I think there is at least one that has operated very widely and, so far as I can learn, quite effectually, namely, the circumstance of having been brought up without such an elementary education as consists in learning to read and write and having some access to good books.

In none of the cases cited by Galton of those who have attained to literary fame did the man in question fail to receive in his boyhood these simple tools by which all literary activity is carried on. Genius is wonderful, but not miraculous. A little suggestion, a little opportunity will go a great way with it—as Galton justly insists—but something of the sort there must be. A man can hardly fix his ambition upon a literary career when he is perfectly unaware, as millions are, that such a thing as a literary career exists. Between illiteracy and the ability to read a few good books there is all the difference between blindness and sight.

It is true that when reading and writing are generally diffused among the common people and recognized as necessary to any sort of advancement, a bright boy will manage to pick them up even when he has not been educated by his parents. But how recent the times and how few, even now, are the countries of which this can be said! Where whole classes of the people, or whole regions of the country know nothing of these difficult arts, how is a boy to get his start? How get that definite ambition that must go before any great achievement?

My opinion that an untaught childhood is an effectual bar to the development of literary genius does not, however, rest upon *a priori* arguments. Galton's list, as I have remarked, furnishes no example to the contrary. I have also, with the aid of Nichol's *Tables of European History,* prepared a list of about seventy of the most distinguished poets, philosophers and men of letters of Europe, consisting chiefly of those whose

names are printed in large capitals by the authors of this work.[1] Having examined the biographies of these men I find none who did not receive elementary instruction in his boyhood. In the few cases where men of letters have sprung from a class generally illiterate it appears that some special pains has been taken with their education. Thus the father of Burns "was at great pains to give his children a good education," and Bunyan, whose father was a tinker, "a settled and reputable man," [2] says in his autobiography, "Nothwithstanding the meanness and inconsiderableness of my parents it pleased God to put into their hearts to put me to school, to learn both to read and to write."

The next question is whether this hindrance of illiteracy, which appears to have been effectual, has been felt by a large proportion of the population. Exact information upon this point cannot be had except for recent times, but the following statements are moderate and I have taken some pains to satisfy myself of their truth.[3]

Up to within the present century the great mass of the population of Europe, even in Protestant countries, was entirely illiterate. By the great mass I mean all but a rather small per cent, differing in different countries and nowhere precisely ascertainable.[4]

If we except France and Switzerland, the same is true of southern and eastern Europe at the present time.[5] Spain, Russia and European Turkey are overwhelmingly illiterate. Italy is prevailingly so, though her condition in this respect is rapidly improving. The same may be said of Greece. In Austria-Hungary more than half of the army recruits are now returned as able to read and write; but we must remember that these are young men who have profited by recent reforms.

In England, where a powerful aristocracy and church estab-

[1] I give the list *infra*, page 133.

[2] Venable's *Life of Bunyan*, page 13.

[3] For information and references upon this point I am indebted to the kindness of Prof. B. A. Hinsdale.

[4] This was certainly the general fact. There may have been local exceptions.

[5] It must be remembered that this was written in 1897. [Ed.]

lishment seem to have been, on the whole, hostile to the education of the common people, such education has been more backward than in any other large Protestant country.

This latter statement may be verified by referring to a work upon *The Education of the Poor in England and Europe,* published in 1846, by Joseph Kay, B.A., of Trinity College, Cambridge. This book, which is largely statistical and descriptive, contains ample evidence that the common people of England were generally illiterate at this comparatively recent date, that the opportunities for their instruction, though greatly improved since 1830, were miserably poor, and that the country was in this respect far behind the more enlightened nations of the continent. The author uses such expressions as these: "Our operatives and agricultural laborers are wholly uneducated." [1] "However miserable the instruction of the poor may be in the towns and great mining and manufacturing districts, that of the agricultural laborers is still worse provided for." [2] "Over great tracts of country there does not at present exist a single school." [3] And concludes his last chapter thus:

> Yes, here, in such a country as this, where the aristocracy is richer and more powerful than that of any other country in the world, the poor are more depressed, more pauperized, more numerous in comparison to the other classes, more irreligious, and very much worse educated than the poor of any other European nation, solely excepting uncivilized Russia and Turkey, enslaved Italy, misgoverned Portugal, and revolutionized Spain.[4]

There are other hindrances arising from social and economic conditions that operate effectually to prevent the development of natural ability. One of these, as I suppose every one will admit, is underfeeding in childhood, or the subjection of children to premature and stunting labor. No breeder of horses would expect a colt, however excellent his parentage, to develop speed after having been put to the plow when two years old. Yet it is undeniable that something closely analogous happens to a considerable part of the children in countries so advanced as England and the United States. Mr. Galton has himself devised and brought into use methods of measuring large num-

[1] Page xii.
[2] Page xiv.
[3] Page 338.
[4] Page 364.

bers of men which have recently been employed to determine the physical effects of nurture and environment. The most striking of these researches is perhaps the investigation by Spielmann and Jacobs of the comparative measurements of Jews in the East and West Ends of London.[1] The West End Jews, who are a well-to-do class, did not differ much from Englishmen of the same class. Those from the East End, employed for the most part in sweat-shops upon the manufacture of cheap clothing, averaged more than three inches less in stature, and were inferior also in size of skull and in every particular covered by the measurements. The intellectual deterioration that goes with this cannot well be measured, but that it must exist will hardly be doubted.

In another paper,[2] dealing with the ability of the Jews as compared with other races, Mr. Jacobs asserts that out of one and a half million of Jews living to fifty "only a little more than half a million can be said to have lived; the rest have but existed and have been out of the running in the race for fame."

The biographies of men of letters seem to me to afford very small support to the theory that literary genius is independent of social hindrances. In going over the list already mentioned of seventy of the most distinguished European poets, philosophers and historians, I find that about two-thirds of them belonged by birth to the upper and upper middle classes, using the latter term rather broadly to include clergymen, advocates, well-to-do merchants and the like. Of the remainder nearly all came of the lower middle class, shopkeepers, prosperous handicraftsmen, etc., while the very few men who, like Burns, sprung from the peasantry, prove to have received an education uncommon in their class. It would seem, then, that if we divide mankind into these three classes, the number of famous men produced by each class is in something like inverse proportion to the total number in the class.[3]

[1] See their paper on "The Comparative Anthropometry of English Jews" in the *Journal of the Anthropological Institute,* 1890, p. 76.

[2] *Ibid.*, 1885, p. 351. "The Comparative Distribution of Jewish Ability."

[3] SEVENTY-ONE FAMOUS EUROPEAN MEN OF LETTERS, ROUGHLY CLASSIFIED ACCORDING TO BIRTH AND HEREDITARY CIRCUMSTANCES.

Belonging to the Upper and Upper Middle Classes.—Dante, Petrarch, Boccaccio, Chaucer, Ariosto, Montaigne, Spenser, Tasso, Cervantes, Shake-

The only escape from these facts, for one who still believes that genius is superior to circumstance, is to assert that the lower classes are naturally as well as socially inferior, and this to such a degree that few or no men of genius are born in them. In our democratic days this will appear to most persons a monstrous supposition, and yet it may be supported by a plausible argument which ought, in fairness, to be stated.

The struggle for the best places in life operates, it may be said, as a sort of natural selection, by the working of which the ablest strains of men are continually finding their way to the top. Even in the most conservative societies there is always more or less penetration of social walls by men and families of uncommon energy. The natural effect of such a process is that hereditary ability becomes concentrated in the upper strata, and little or none is to be found anywhere else. To this might be added the argument already quoted from Galton, that since America, where education is diffused and opportunity open, does not produce more great writers than England, where social distinctions are comparatively fixed, we must conclude that democracy has no tendency to bring to light suppressed genius. This view has some show of reason, and in fact it may be admitted that, for the cause mentioned, there is probably more unusual ability among the children of the well-to-do classes, in proportion to their number, than there is among those who have not made so good a place for themselves. But there is no proof that this superiority is very great, and when we see that a few men from the peasantry and the proletariat, having had instruction and opportunities unusual with their class, achieve

speare, Bacon, Jonson,(?) Descartes, Milton, Corneille, Hobbes, Pascal, Dryden, Leibnitz, Locke, Addison, Montesquieu, Voltaire, Fielding, Hume, Johnson, Lessing, Gibbon, Cowper, Burke, Goethe, Coleridge, Scott, Landor, Byron, Shelley, Niebuhr, Macaulay, Comte, Hugo, Thackeray, Disraeli, Tennyson, Browning, Ruskin—45.

Belonging to the Lower Middle Class.—Luther, Rabelais, Camoens, Erasmus, J. C. Scaliger, Molière, Spinoza, Racine, Defoe, Swift, Steele, Pope, A. Smith, Rousseau, Kant, Schiller, Wordsworth, Hegel, Keats, Béranger, Heine, Balzac, Carlyle, Dickens—24.

Belonging to the Lower Class.—Bunyan, Burns—2.

Of course, in the case of many of these men the classification is arbitrary, and probably no two persons would agree precisely upon such a matter. I do not think, though, that any reasonable changes would alter the general result.

literary fame, it seems reasonable to infer that if instruction and opportunity had been general the number of such men would have been correspondingly increased.

The argument derived from the United States is pertinent only if we assume that the failure of this country to produce a large number of famous writers cannot be explained by some historical cause, such as the inevitable preoccupation of the people with the material development of the country and its political organization. That it can be so explained is the general and defensible opinion with us, and I shall later offer some observations tending to confirm this view.

Moreover, if we take history as a whole, the proposition that democracy favors the development of genius will appear plausible, to say the least.[1] Athens and Florence, rich in famous men above all other places, were democracies when at the height of their glory, and ceased to be glorious soon after they ceased to be democratic. The great writers of the Augustan age were the product of the later days of the Roman Republic, and the time of Elizabeth was one of freedom and open opportunity compared with the times that preceded and followed it. The history of the Netherlands would also offer striking confirmation of the theory suggested.

Freedom is certainly not the only cause of the appearance of great men, but it appears to be one of the causes, a favoring circumstance which has commonly united with other and more obscure conditions in the production of memorable groups of famous persons. It seems to me that if any conclusion upon this point is to be drawn from history it is the one opposite to that which Galton draws from the case of the United States. And if this fails, what other standing ground is there for the theory that genius is not suppressed by illiteracy and class distinctions?

The question how far genius can be helped or hindered by such differences of wealth and circumstance as are found within the educated classes of peoples as advanced as the English or the American, cannot be precisely determined because we have no way of knowing what a man might have done under differ-

[1] This topic is ably discussed in Bryce's *American Commonwealth,* Chaps. cvii and cviii.

ent conditions. We cannot know what is in him until it comes out: if genius does not become fame we cannot be sure it was genius. There is no single, definite obstacle which, like illiteracy, is almost invariably efficacious; but what may help one may hinder another. In such a question more weight must be given to probability and the opinion of judicious observers than to anything else. Galton is very clear in his belief that these things do not materially affect the final result, that if a man of genius does not reach fame by one road he will by another. It is possible, however, that he does not do full justice to the considerations opposed to this view.

That poverty, low rank, bad luck and the like are no effectual bar to energetic men has been a thousand times proved. Indeed there is quite a general impression, borne out by ordinary observation, that men as a rule require a certain amount of opposition and hardship to bring out what there is in them. "To be thrown upon one's own resources," says Franklin, "is to be cast in the very lap of fortune; for our faculties then undergo a development and display an energy, of which they were previously unsusceptible." Human nature, as a rule, is sluggish, needing some sort of external occasion and incitement, and men of genius are not always exceptions to this rule. Galton says of Talleyrand,

> Talleyrand would have passed his life in the same way as other grand seigneurs, if he had not been ejected from his birthright by a family council on account of his deformity, and thrown into the vortex of the French Revolution. The furious excitement of the game overcame his inveterate indolence, and he developed into the foremost man of the period, after Napoleon and Mirabeau.[1]

I know of no reason to suppose that inveterate indolence is confined to diplomats or statesmen. Thackeray, among modern men of letters, is accused of it, perhaps unjustly, as some who knew him assert. At any rate Trollope says of him,[2]

> It was his nature to be idle—to put off his work—and then to be angry with himself for putting it off. Ginger was hot in the mouth with him, and all the allurements of the world were strong upon him. To find on Monday morning an excuse why he should not on

[1] *Op. cit.*, p. 46.

[2] *Life of Thackeray*, p. 15.

Monday do Monday's work was, at the time, an inexpressible relief to him, but had become a deep regret—almost a remorse—before the Monday was over.

It is possible that had Thackeray been rich he would never have settled down energetically to literature, but would have continued through life the desultory activities of his youth and early manhood.

I think it is true, however, that most artists and men of letters have the hair-trigger temperament described by Galton and feel almost continually a powerful impulse toward production. But although this impulse is powerful it may be vague, a mere unrest and discontent; indeed it must be so until it finds its proper use through observation, opportunity and training. If this self-knowledge and wholesome activity are not gained, men of genius are peculiarly apt to sink in dissipation energies that do not readily find a natural outlet. The muscular sensibility of the born athlete, to which Galton likens the promptings of genius, seldom causes him to keep in training except when there is a fight or a race in prospect. At other times he is not unlikely to appease his uncomfortable sensations with drink. In the same way, I believe, genius, especially of the imaginative sort, is liable to run wild unless it finds betimes a harness in which it can work. This is the common impression, and the irregular lives of many gifted men bear it out.

There is a class of men of genius in whom extreme sensitiveness, combined with lack of physical vigor, makes it essential that they should be secluded from the stress and annoyance of bread-winning activities. The case of Darwin, as Professor Ritchie has suggested,[1] may be cited as one in which, so far as we can see, inherited wealth could not well have been dispensed with.

Half an hour more or less conversation would make to him the difference of a sleepless night, and of the loss perhaps of half the next day's work.[2]

After speaking of the routine of his life, in which everything that wealth, retirement and the affection of his family

[1] *Darwinism and Politics*, p. 51.
[2] *Life and Letters of Charles Darwin*, Vol. i, 101.

could do, combined to secure regularity, amusement and freedom from disturbance, his son goes on to say,[1]

> It is almost impossible, except for those who watched his daily life, to realize how essential to his well-being was the regular routine that I have sketched; and with what pain and difficulty anything beyond it was attempted. Any public appearance, even of the most modest kind, was an effort to him. In 1871, he went to the little village church for the wedding of his elder daughter, but he could hardly bear the fatigue of being present through the short service.

A notable instance of good fortune in Darwin's life was his appointment to be naturalist of the *Beagle,* leading him to settle finally upon a scientific career and enabling him to make those observations in which most of his later work was rooted. Just how far his development depended upon this opportunity it would be useless to discuss. It is very possible that he might have collected his material in some other way. In connection with this appointment there is an instance, related in his autobiography, of how great matters may hinge upon small ones.

> Afterward, on becoming very intimate with Fitz-Roy (the captain of the vessel) I heard that I had run a very narrow risk of being rejected, on account of the shape of my nose! He was an ardent disciple of Lavater, and was convinced that he could judge of a man's character by the outline of his features; and he doubted whether any one with my nose could possess sufficient energy and determination for the voyage.[2]

As this question of the power of education and circumstance to help or hinder genius is largely a matter of opinion, I may be excused for quoting Goethe, whose wide acquaintance with every sort of natural ability and close study of the way in which it develops, make him perhaps the highest authority that can be found. Speaking of the fact that distinguished men, especially poets, are often sickly, he said to Eckermann,[3]

> The extraordinary performance of these men presupposes a very delicate organization, which makes them susceptible to unusual emotions, and capable of hearing celestial voices. Such an organization, in conflict with the world and the elements, is easily disturbed and

[1] *Life and Letters of Charles Darwin,* Vol. i, p. 105.
[2] *Ibid.,* p. 50.
[3] Conversation with Eckermann, Dec. 20, 1829.

injured: and he who does not, like Voltaire, combine with great sensibility an equally uncommon toughness, is easily exposed to perpetual indisposition.

And again, in *"Wilhelm Meister,"* [1]

"But will not a happy natural turn," said Wilhelm, "as the first and last requisite, of itself conduct the player, like every other artist, nay perhaps every other man, to the lofty mark he aims at?"

"The first and last, the beginning and the end, it may well be; but in the middle many things will still be wanting to an artist, if instruction, and early instruction too, have not previously made that of him which he was meant to be: and perhaps for the man of genius it is worse in this respect than for the man possessed of only common capabilities; the one may much more easily be misinstructed, and be driven far more violently into false courses than the other."

"But," said Wilhelm, "will not genius save itself, not heal the wounds which itself has inflicted?" "Only to a very small extent and with great difficulty," said the other, "or perhaps not at all."

In estimating the importance of circumstance it should never be forgotten that "a favorable environment" is nothing fixed and definite, like social standing or wealth, but is different for every individual. That measure of struggle and disappointment which is only a wholesome and needed stimulus to one man, may drive another into dissipation, or wear out his body and mind with fruitless annoyance and anxiety. In the same way the wealth that may secure just the needed seclusion and materials for one, may keep another in lifelong indolence.

So much for those differences in education, nurture and opportunity that are found among the people of the same time and nation. Now how is it as between different countries and different times? Can it be shown that there are forces apart from race that cause genius to flourish here and droop there, which at one period foster the germs of greatness in a people until they yield a rich fruitage of accomplishment and fame, and at another wither and chill them into barrenness? Are such things as historical tendency and the spirit of the age sufficiently real and powerful to control the production of famous men?

If the affirmative of these questions can be established, it

[1] Book 2, chap. ix.

is clear that the whole plan of estimating the worth of races by their great men and with only incidental reference to their history falls to the ground. Such comparisons can be defended only upon the theory that race is the paramount factor.

I hope to show that history is quite as important as race in this matter; that while it is a function of race to turn out geniuses, historical forces determine how many of them shall be famous, and of what sort these shall be, that the appearance of great men in the past has been of a sort impossible to reconcile with the theory that such appearance is controlled by race alone.

Let me begin by giving the main argument and conclusions of Galton's chapter on "The Comparative Worth of Different Races."

In discussing this the first question considered is, What are the qualities which are needed in civilized society, and which may, therefore, be used as a test of the worth of races?

They are, speaking generally, such as will enable a race to supply a large contingent to the various groups of eminent men, of whom I have treated in my several chapters. Without going so far as to say that this very convenient test is perfectly fair, we are at all events justified in making considerable use of it, as I will do, in the estimates I am about to give.

The comparison, then, is to be based upon the number and grade of the eminent men that a race produces, the supposition being that the distribution of ability is similar in all races, so that if the ablest men in a given race are superior in a certain degree to those of another race, the men of medium and low ability will be superior in like degree. It is like the inference of a zoologist, who, having only a single bone of an animal of known species, will compute approximately all the other dimensions.

I know this cannot be strictly true, for it would be in defiance of analogy if the variability of all races were precisely the same; but, on the other hand, there is good reason to expect that the error introduced by the assumption cannot sensibly affect the off-hand results for which alone I propose to employ it; moreover, the rough data I shall adduce, will go far to show the justice of this expectation.

Upon this basis Galton proceeds to compare the Negro race with the Anglo-Saxon, the Lowland Scotch and the English North-Country men with the ordinary English, and the English with the ancient Athenians.

The Negro race he finds to be about two grades below the Anglo-Saxon. This conclusion is based upon the fact that its greatest men, such as Toussaint l'Ouverture, appear to be at least that much inferior to the greatest men of the rival race, also upon the opinions of travelers who have had to do with African chiefs, and upon the large proportion of half-witted persons found among the blacks.

The Lowland Scotch and the English North-Country men are held to be "decidedly a fraction of a grade superior to the ordinary English," both because they produce more eminent men in proportion to their number, and because the well-being of the masses of the population is greater.

We now come to the Athenians.

> Of the various Greek sub-races, that of Attica was the ablest, and she was no doubt largely indebted to the following cause for her superiority. Athens opened her arms to immigrants, but not indiscriminately, for her social life was such that none but very able men could take any pleasure in it; on the other hand, she offered attractions such as men of the highest ability and culture could find in no other city. Thus, by a system of partly unconscious selection, she built up a magnificent breed of human animals, which, in the space of one century—viz., between 530 and 430 B.C.—produced the following illustrious persons, fourteen in number:
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> Statesmen and Commanders.—Themistocles (mother an alien), Miltiades, Aristides, Cimon (son of Miltiades), Pericles (son of Xanthippus, the victor at Mycale). Literary and Scientific Men.—Thucydides, Socrates, Xenophon, Plato. Poets.—Aeschylus, Sophocles, Euripides, Aristophanes. Sculptor.—Phidias.

The population of Attica at the time she produced these men consisted, it seems, of about 90,000 native free-born persons, 40,000 resident aliens, and a laboring and artisan population of 400,000 slaves. Of these Galton holds that the first-mentioned alone are to be considered, the aliens and slaves being excluded, doubtless because they did not belong to the Athenian race.

Now let us attempt to compare the Athenian standard of ability with that of our own race and time. We have no men to put by the side of Socrates and Phidias, because the millions of all Europe, breeding as they have done for the subsequent 2000 years, have never produced their equals. They are therefore two or three grades above our G—they might rank as I or J. But, supposing we do not count them at all, saying that some freak of nature acting at that time may have produced them, what must we say about the rest? Pericles and Plato would rank, I suppose, the one among the greatest of philosophical statesmen, and the other as at least the equal of Lord Bacon. They would, therefore, stand somewhere among our unclassed X, one or two grades above G—let us call them between H and I. All the remainder, the F of the Athenian race—would rank above our G, and equal to or close upon our H. It follows from all this, that the average ability of the Athenian race is on the lowest possible estimate, very nearly two grades higher than our own—that is, about as much as our race is above that of the African Negro. This estimate, which may seem prodigious to some, is confirmed by the quick intelligence and high culture of the Athenian commonalty, before whom literary works were recited, and works of art exhibited, of a far more severe character than could possibly be appreciated by the average of our race, the calibre of whose intellect is easily gauged by a glance at the contents of a railway book-stall.

This argument is so ingenious and the conclusion so startling that I propose to assume for a few moments that the method is sound—that it is practicable to compare peoples so widely different in almost every respect as the English and Athenians upon a basis of the number and grade of their eminent men—and inquire whether it is fairly applied, whether it does, after all, show such a pre-eminence on the part of the Greeks as Galton asserts. The only changes I propose to make are such as in my opinion tend to insure fair play between the contending nations.

As we allow Athens to choose her ground, so to speak, and rest her claims upon the age of Pericles, we ought surely to allow the same privilege to England. The brightest period in her history, having in view the number of her great men and of the population from which they were drawn, was undoubtedly the age of Elizabeth.

The population of the country at that period is not accurately known, but it appears to have been not greater than four and a half millions. Against this we have in Athens only about

90,000 free citizens, or but two per cent of the number of Englishmen.

I have already given reasons, however, for holding that in questions of fame the illiterate and overburdened poor should be counted out. Now among the free citizens of Athens there was no such class as this; although the government was democratic, so far as concerned those who shared in it, the citizens were really an aristocratic caste, ruling over a vast population of slaves. There were, on the average, four or five of these latter to every man, woman and child of the Athenian population, and even the poorest families had at least one slave to do the lower sorts of manual labor. The education of boys appears to have been nearly universal, and it was not a mere smattering of the elements, enabling the pupil to write his name or spell out laboriously a few paragraphs, but lasted from the age of seven to that of sixteen, and was often followed by more advanced studies. The three main divisions were gymnastics, music and letters, and the course as a whole appears to have been a thorough initiation into the culture of the Athenian people. This culture was, as all will admit, one peculiarly favorable to the development of literary and artistic genius.

I have not been able to find even an estimate of the number of English people that could read and write in the time of Elizabeth; but it was some small percentage of the population. Of course the upper and middle classes were feeling in some measure the general intellectual awakening that followed the revival of learning and the invention of printing, but culture was by no means general in any class and scarcely touched the common people. Froude says in his *Life of Bunyan,* "In those days there were no village schools in England; the education of the poor was an apprenticeship to agriculture or handicraft."

Without pretending to definite knowledge upon the matter I venture to suggest that it is at least a fair question whether more than two per cent of the people of England had such opportunities for culture that they can reasonably be classed, in this respect, with the free-born population of Athens.

Another circumstance in favor of the Athenians is, in my opinion, of almost equal importance. The development of literary and artistic genius is greatly stimulated by facility

of access to great centers of culture, where one can come into contact with eminent men and their works, and gain an inspiration more personal and visible than can be gotten from books. It is in capitals, and there only as a rule, that literature and art are organized, communication and sympathy established among men of promise, and an "atmosphere" created.

Upon this point I shall take the liberty of quoting Goethe again. He has discussed the question at length, with his usual sagacity and amplitude of information. Take for instance this concerning Béranger, whom he is contrasting with Schiller.[1]

> On the other hand, take up Béranger. He is the son of poor parents, the descendant of a poor tailor; at one time a poor printer's apprentice, then placed in some office with a small salary; he has never been to a classical school or university, and yet his songs are so full of mature cultivation, so full of wit and the most refined irony, and there is such artistic perfection and masterly handling of the language, that he is the admiration, not only of France, but of all civilized Europe.
>
> But imagine this same Béranger—instead of being born in Paris, and brought up in this metropolis of the world—the son of a poor tailor in Jena or Weimar, and let him commence his career, in an equally miserable manner, in such small places, and ask yourself what fruit would have been produced by this same tree, grown in such a soil and in such an atmosphere.

I suppose I need not insist on the fact that as a focus of intellectual activity the London of Elizabeth bears no comparison to the Athens of Pericles. The Athenians were all, practically, inhabitants of one great town, and any man could meet with any other as often as he liked, while all came in daily contact with the great works of art that crowned the city. London, on the other hand, was hard to reach—how hard one may judge from the famous description of English roads in Macaulay's third chapter—and was not much of a place when you got there. It contained something like 150,000 people, of whom the great majority were ignorant artisans who must be classed, so far as culture is concerned, with the Athenian slaves.

Making due allowance for these things and assuming that the conditions other than race are about equal in the two cases, let us see if England can produce a list of men born within

[1] Conversation with Eckermann, May 3, 1827.

one century, which shall be other than ridiculous when set beside the one that Galton gives us from Athens. I choose the century beginning with 1550.

Athenians.	*Englishmen.*
Themistocles,	Cromwell,
Miltiades,	Sir Walter Raleigh,
Aristides,	Sir Philip Sidney,
Cimon,	Shakespeare,
Pericles,	Bacon,
Thucydides,	Ben Jonson,
Socrates,	Spenser,
Xenophon,	Milton,
Plato,	Bunyan,
Æschylus,	Dryden,
Sophocles,	Locke,
Euripides,	Hobbes,
Aristophanes,	Jeremy Taylor,
Phidias.	Sir Isaac Newton.

Opinions will differ regarding these two lists; but few, I imagine, will go so far as to say that the Englishmen are outclassed.

It is not for me to praise Shakespeare, or Milton, or Cromwell, much less to depreciate Phidias or Sophocles. Some would say that to have produced Shakespeare was alone a sufficient title to greatness for any race, and enough to cast lasting doubt on all comparisons tending to make it appear less than others. Let the reader form his own opinion.

In such questions as these, where there is no definite criterion, we are necessarily more or less controlled by prejudice. In favor of the Englishmen there is the prejudice of race; in favor of the Greeks there is the prejudice of education. The writers of the latter people had a long start; they have been the school-books of Europe emerging from barbarism; they have grown with the growth of culture, and their fame is carried on by irresistible tradition. The fame of Shakespeare is still young, and it is only within the present century that he has come to be generally regarded as the peer of the great classic writers.

Anglo-Saxons of sensibility and culture regard Greek literature and art with an intensity of admiration which might

be interpreted as a sense of their own inferiority. I would suggest, however, that this charm which the Greek spirit has for the northern races is the charm of difference rather than that of superiority. It is like the feeling of sex; just as there is something in what is womanly that appeals to men, and something in what is manly that appeals to women, so that which is Greek delights the modern nations without there being any question of greater or less in the matter at all. The Teutonic man, one may say, feels toward the spirit of his own race as toward a brother, but toward the Greek spirit as toward a mistress. This very capacity of admiring, and so assimilating, what is best in a different race is itself, perhaps, a title of greatness.

After all, were the Greeks an abler people than the Anglo-Saxon? Could they have advanced in liberty for a thousand years without falling into disorder? Could they have organized and maintained a commercial empire "greater than the Roman?" Could they have suppressed Napoleon and abolished the slave trade?

Such questions are interesting, perhaps, but quite unanswerable. In the meantime I imagine that most persons who consider the facts dispassionately will agree with me that even if we accept Galton's method of comparison, there is small foundation for his judgment "that the average ability of the Athenian race is, on the lowest possible estimate, very nearly two grades higher than our own—that is, about as much as our race is above that of the African Negro."

But it can be shown, I think, that this method, no matter how carefully we allow for differences of social organization, is still hopelessly fallacious. It can be satisfactorily tested, it seems to me, by examining the historical grouping of the eminent men produced by any one people, with a view to finding out whether they appear with such approximate regularity as would be expected if greatness is a function of race. If one thing is to be the criterion of another it must be shown to bear some reasonably definite relation to it. In Galton's argument it is assumed that we have an equation of two variable quantities, of which one being determined, namely the number of great men, we can determine the other, that is race ability.

Now it is demonstrable that there are other unknown quantities entering into this equation which are not determined, and whose presence vitiates the reasoning.

The conspicuous fact that one generation may be rich in famous men and another, a little earlier or later, quite barren of them, does not entirely escape Galton; but he endeavors to account for it, as he apparently must under his theory, by a change in the race itself. Let us see how he does this in the case of the Athenians. In a paragraph already quoted, the rise of this people is explained as follows:

> Athens opened her arms to immigrants, but not indiscriminately, for her social life was such that none but very able men could take any pleasure in it; on the other hand, she offered attractions such as men of the highest ability and culture could find in no other city. Thus, by a system of partly unconscious selection, she built up a magnificent breed of human animals which . . . produced the following illustrious persons.

Now for the causes of the decline of this breed.

> We know, and may guess something more, of the reason why this marvelously gifted race declined. Social morality grew exceedingly lax; marriage became unfashionable, and was avoided; many of the more ambitious and accomplished women were avowed courtesans, and consequently infertile, and the mothers of the incoming population were of a heterogeneous class. In a small sea-bordered country, where emigration and immigration are constantly going on, and where the manners are as dissolute as were those of Greece in the period of which I speak, the purity of a race would necessarily fail. It can be, therefore, no surprise to us, though it has been a severe misfortune to humanity, that the high Athenian breed decayed and disappeared.

Now is this entirely plausible, or even consistent? Both the rise and the decline of the race are ascribed to the same cause, namely immigration. Certainly, then, some reason should be given for supposing that there was a radical change in the character of the immigration: but no such reason is given. Until something more definite and convincing than this is brought forward we must believe that the natural characteristics of a race are comparatively stable, and that it takes a long time, as a rule, to transform them into something

quite different. Believing this we cannot explain the instances of rapid rise and decadence, of which history is full, by saying that they are due to changes in the breed.

To examine this question a little more closely let us look for a few moments at the distribution of famous painters in the country that has been most noted for producing them; since artists are regarded by Galton as affording, along with literary men, the best illustration of the truth of his theory. For convenience, and in order to have something definite to refer to, I shall again make use of Nichol's Tables, already mentioned. Arranging the famous painters of Italy according to the dates of their birth—omitting two or three unimportant ones whose dates are uncertain—I have the following results:

Previous to the thirteenth century Italy produced no great painters. In the thirteenth century seven were born; in the fourteenth, seven; in the fifteenth, thirty-eight; in the sixteenth, twenty-three, of whom fourteen fall in the first half. In the seventeenth, eighteenth and nineteenth centuries a few scattered painters, none of them of very high merit.

The concentration in the fifteenth century, here apparent, becomes more striking when we examine that century by quarters. Six of the thirty-eight were born in the first quarter, eight in the second, eight in the third, and sixteen in the last. But the real pre-eminence of this period, the real intensity with which the light of fame beats upon this particular point, is very faintly suggested by figures. It will be better appreciated when I say that here, within a period of nine years, were born the three painters generally acknowledged to be the greatest that the world has produced: Titian (1475), Michelangelo (1477), and Raphael (1483).[1]

[1] Famous Italian Painters Classified According to Their Time of Birth.

[Both the list and the notation indicating the relative excellence of the painters follow Nichol's Tables. Other estimates would differ a good deal but would not alter the general result.

Twelfth Century.—None.

Thirteenth Century.—Guido da Siena, Margaritone d'Arezzo, Cimabue, Arnolfo del Cambio, S. Memmi, GIOTTO, Duccio.

Fourteenth Century.—T. Gaddi, Orcagna, Justus of Padua, Taddeo Bartoli, S. Aretino, Lippo Dalmasio, Fra Angelico.

Now how can such facts as these be explained on the theory that greatness is a comparatively constant function of race? Can it be supposed that by some occult action of the laws of selection the Italian people rapidly increased in natural ability of an artistic sort up to 1500, and then as rapidly declined? If not, if such variations as these are observed in the same race, how can the number of eminent men produced be taken as a test of race ability?

The odds against this remarkable grouping being due to mere chance would be so great that no one, I suppose, would venture to attribute it to that, though I should be inclined to admit that the birth of the three transcendent artists within so very short a period as nine years was partly fortuitous.

Nor can it be said that genius, such as these painters possessed, found some other path to fame in the periods preceding and succeeding the great time of art. On the contrary the time when there were famous artists in Italy was also the time, roughly speaking, when there were great men of letters and great statesmen, and in the age succeeding all sorts of genius were obscured.

A study of Dutch and Flemish painters would lead to results essentially similar. Nearly all the great ones were born in the period 1550-1650.

To explain facts like these, and analogous ones that can be traced in the history of literature by any one who will take the

Fifteenth Century—First Quarter.—Masaccio, Filippo Lippi, Roselli, P. della Francesca, Gozzoli, Alberti.

Second Quarter.—Ghirlandaio, Pollaiuolo, G. Bellini, Mantegna, Benvenuto da Siena, PERUGINO, Botticelli, Signorelli.

Third Quarter.—Filippino Lippi, Bonsignori, Crivelli, Francia, Pinturicchio, *LEONARDO DA VINCI,* L. di Credi, Luini.

Fourth Quarter.—Fra Bartolommeo, GIORGIONE, Marziale, *RAPHAEL,* L. Lotto, Palma Vecchio, Beccafumi, Sodoma, *MICHELANGELO,* S. del Piombo, A. del Sarto, CORREGGIO, *TITIAN,* Dossi, Garofalo, G. Romano.

Sixteenth Century.—First Half.—Parmigiano, Bordone, Bronzino, D. da Volterra, Salviati, Vasari, G. Mantuano, TINTORETTO, T. Zucchero, Bassano A. Schiavone, P. Veronese, Baroccio, Manzuoli.

Second Half.—The three Caracci, Carduccio, Caravaggio, G. Reni, Allori, Domenichino, Guercino.

Seventeenth Century.—Salvator Rosa, born in 1615, is the last Italian painter of great reputation.

trouble, we must suppose one of two things: first, that the natural ability of races undergoes rapid changes in degree and kind, owing to the action of forces as yet unknown; or, second, that the appearance of famous men is dependent upon conditions other than race.

The second conclusion is so much simpler and agrees so much better with known facts, that I imagine few will embrace the first. And if we accept the second we must also, I think, conclude that able races produce at all times a considerable number and variety of men of genius of whom only a few encounter those favorable conditions that enable them to achieve fame.

To make perfectly clear the grounds of this last inference let me suggest a comparison. Suppose one were following a river through a valley, and from time to time measuring its breadth, depth and current with a view to finding out how much water passed through its channel. Suppose he found that while in some places the river flowed with a swift and ample current, in others it dwindled to a mere brook and even disappeared altogether, only to break out in full volume lower down. Would he not be led to conclude that where little or no water appeared upon the surface the bulk of it must find its way through underground channels, or percolate invisibly through the sand? Would not this supposition amount almost to a certainty if it could be shown that the nature of the rock was such as to make the existence of underground channels extremely probable, and if in some cases they were positively known to exist? I do not see that the inference is any less inevitable in the case before us. We know that a race has once produced a large amount of natural genius in a short time, just as we know that the river has a large volume in some places. We see, also, that the number of eminent men seems to dwindle and disappear; but we have good reason to think that social conditions can cause genius to remain hidden, just as we have good reason to think that a river may find its way through an underground channel. Must we not conclude, in the one case as in the other, that what is not seen does not cease to be, that genius is present though fame is not?

There are reasons for believing that even where our river

seems fullest a great part of its flow is underground. In the age of Elizabeth, for instance, there was a complete lack of those masters of painting and sculpture who made the chief glory of the age of Lorenzo de Medici. Yet later history has shown that the English people are by no means lacking in this sort of genius. The inference is that it was present but undeveloped.

The fact that genius can develop into greatness at some times and cannot at others is by no means inscrutable. The reasons for it can be indicated in a general way, though they are so complex that it is difficult to point out their precise application to various periods of history.

In the case of painting, for instance, it is easy to show that a number of conditions other than natural ability must concur before excellence can exist. Among those generally recognized as essential to great art of any kind are the three following:

First, a perfect technique, achieved by the accumulated experience of many generations, and kept alive and promulgated by a succession of masters. This technique cannot be learned from books or by looking at finished pictures. "Studio traditions are to be acquired only in the studio." [1] It calls for personal contact and a long training that begins in childhood. In order that this training may be had it seems important that art should rest upon art-handicrafts, which maintain a large number of skilled craftsmen, of whom the most gifted become great artists. In the fifteenth century painting was a great art largely because it was a recognized and flourishing trade, and because the kindred trade of goldsmithing also flourished. The great painters and sculptors were first of all craftsmen. They were apprenticed when eight or ten years old, and for a long time were contented to watch their master and copy his methods as closely as possible. So general was this and so close the imitation that it is frequently impossible to distinguish the work of a master from that of his pupils.

The greatest painters grew up in these traditions, and spent

[1] W. J. Stillman.

Lombroso, *The Man of Genius*, English Translation, p. 153, notes that "the establishment of a school of painting, even when it is the result of an importation, makes an artistic centre of a place which was not so previously."

their youth in imitation. Raphael was a pupil of Perugino, Perugino of Verocchio, he of Donatello, and so on. Mr. Stillman says [1] that Raphael "had an extraordinary and, so far as we can judge by the history of painting, unique power of absorbing the ideas and feelings of other men. He caught the color of every great artist he approached."

A second indispensable condition is an "art-atmosphere," a general and unaffected interest in the creation of beauty, and the appreciation of the good to which that interest naturally leads. This art-atmosphere is itself a social product, and usually grows with the growth of art, in part its cause and in part its effect. Little can be done in any line of work without appreciation, sympathy, friendly criticism; and artists and poets, being extremely sensitive, can least of all do without these. They all agree, I believe, that no headway can be made without an "atmosphere," and, where people in general are cold, artists flock together and try to keep one another as warm as possible.

Thirdly, I believe that no very great art has been produced except where there was an aspiring and successful general life, furnishing symbols that spoke to a common enthusiasm. Stimulated by this enthusiasm art raises these symbols to the highest types of beauty. The general life and the symbols which stand for it, may be religious, as with most of the earlier mediæval painters, or they may be political, or a union of the political with the religious, as was, I believe, the case with much of the greatest art of Athens and Venice. The art which separates itself from great ideas and general feelings, which aims solely at sensuous effects, is usually felt to fall short of art's highest functions.

I do not say that these are all the essential conditions of great art, but they seem to be essential, and that they are so helps one to understand the fact, already shown, that the development of artistic genius is dependent upon historical tendencies and the spirit of the time. A complete philosophy of art, showing just what the favoring conditions are and how they arise, has yet to be written.

How present conditions in the United States bear upon the

[1] *Old Italian Masters*, p. 228.

development of artistic genius may be gathered from the statement of an American painter of acknowledged eminence, Mr. F. D. Millet.[1]

> The brief chapters in the career of an American artist may be summarized as follows: He spends the most impressionable years of his life between studying in an art school and some occupation which gives him fair promise of sufficient recompense to enable him to pursue his studies abroad. He enters an art school in a foreign capital, and proves that with all the disadvantages of his early education he can take rank with any student in any branch of the profession. After his student days are over he has to decide the question whether to expatriate himself and lead a congenial life in the stimulating atmosphere of professional sympathy and support, or to return home and add his efforts to the sum of individual endeavors directed with rare devotion and self-sacrifice toward the development of artistic talent in his native country. If he chooses the former course, he may and often does become known to fame and fortune; if he selects the latter and nobler career, his life becomes a round of teaching, struggles with sordid conditions of professional life, and the wearing and soul-killing battle with lack of appreciation and encouragement, not to say distrust.
>
> If in the whirl of commercial prosperity, and all the distractions of active and ultra-modern life and the accompanying unrest which is death to artistic production, we find a constantly increasing number of serious artists, what may we not expect when the luxury of leisure is possible in this country!

There is, then, reason to believe that it is not native incapacity that retards the rise of art in this country, but sheer ignorance and lack of interest resulting from generations of one-sided development.

Since Galton includes distinguished oarsmen among his men of genius, I may be allowed at this point, to draw a comparison from the game of baseball. It is as difficult for an American brought up in the western part of our country to become a good painter as it is for a Parisian to become a good baseball player, and for similar reasons. Baseball is a social institution with us; every vacant lot is a school, every boy an aspirant for success. The technique of the game is acquired in childhood, and every appearance of talent meets with enthusiastic appreciation. Hence we have many good players and a few great ones. Now

[1] *The United States of America,* edited by N. S. Shaler, Vol. ii, pp. 415, 420.

it is probable that Frenchmen are from time to time born with a genius for this game, but how can it be developed? What chance do they have to achieve excellence or acquire fame? They probably remain in lifelong ignorance of their own possibilities. If the ambition did arise in one of them it would probably come too late for him to make up the lack of early training.[1]

This somewhat humble illustration is believed to be well worthy of consideration by those who imagine that a social career can be independent of circumstances and the spirit of the time.

The principles that apply to painting hold good, *mutatis mutandis,* in other social careers. The dependence upon conditions other than race, the concentration of certain kinds of greatness at certain epochs, exist in all the arts and in literature. The concentration of English dramatists toward the end of the sixteenth century is as conspicuous as that of the Italian painters a century earlier. Shakespeare, Beaumont, Fletcher, Ford, Webster, Massinger and Jonson were born within a period of twenty-three years, while in the centuries since then England has produced only one or two dramatists comparable with the least of these. A similar grouping may be observed in the earlier group of American men of letters. Professor McMaster, in his history, speaks of it as follows:[2]

> The men whose writings now form our national literature, the men we are accustomed to revere as intellectual patriarchs, all whose works have become classics, belong, without exception, to the generation which followed the Revolution. Irving was not a year old when peace was declared. Cooper was born in the same year Washington went into office. Halleck, one year later. Prescott, in the year Washington came out of office. The constitution was five years old when Bryant was born. The first year of the present century witnessed the birth of Bancroft, and, before another decade had come and gone, Emerson was born, and Willis, and Longfellow, and Whittier, and Holmes, and Hawthorne, and Poe. . . . Scarcely a twelvemonth went by unmarked by the birth of a man long since renowned in the domain of letters—1783, 1789, 1790, 1791, 1794, 1795, 1796, 1800, 1803, 1806, 1807, 1808, 1809, 1811, 1814, such is the almost unbroken succession.

[1] Again it must be recalled that this was written long before American troops introduced baseball to France. [Ed.]

[2] Vol. i, p. 76.

I find, however, that grouping is not so conspicuous in literature as it is in art; and in science it is not at all obvious. Since the Reformation there has been a tolerably regular and constant advance of verifiable knowledge, in which all civilized nations have participated. Though it is no doubt true, as Galton points out, that the fame of a man of science is likely to rest upon some striking discovery which might easily have been made by some one else—since the time had arrived when it could not long be postponed—yet I am not sure but scientific genius is, after all, more independent in its development than any other. If so it is because science, as a social institution, is farther-reaching, and more accessible to those fitted to share in it, than is any other institution. Since the invention of printing and the consequent diffusion of books, the scientific men of all nations have formed a single co-operating group, enabled to co-operate by the facility of communication and by the exact and verifiable character of their work. To the man with a natural turn for it, science, and the inspiration to pursue science, are communicable through books and correspondence. There is no "local color" in science; the "atmosphere" is as essential as it is in art, but it is purely intellectual, and depends relatively little upon personal contact. Compared with the artist the man of science is cold, and can carry on his pursuits with but little emotional support from his immediate surroundings. Letters, journals, and the notice of his work by others in the same line of research suffice for him.

Literature has some of these characteristics, but not others. It has a great advantage over painting and sculpture in that it is capable of cheap diffusion through printing. It is for this reason, apparently, that literature arises earlier in a new country than do the other arts. Painting and sculpture cannot well be learned except through intercourse with a master, nor is it possible adequately to reproduce great works and disseminate them over the earth. Accordingly it may happen, as is the case over the greater part of the United States, that no conception of these arts exists except a vague and false one derived from reading and from familiarity with cheap mechanical reproductions. The arts of illustrating and engraving, however, precisely because their products are easily disseminated, are in

a comparatively flourishing state and are doing much to arouse an art-sense among us. As compared with scientists, men of letters have probably more need of the emotional stimulus and support that come by personal contact. The passionate desire of young men of letters to see and know the heroes of their craft is depicted in many autobiographies. I suppose that when Mr. Howells went to Boston and saw Lowell and Dr. Holmes for the first time it meant more to him than a like experience would have meant to a young chemist or mathematician.

In the matter of propagation in a new country sculpture and painting may be compared to heavy-seeded trees, like oaks and walnuts, which, because of the difficulty with which they are sown, make their way slowly into a region where the species is not already established. Literature and science, for the reasons just given, are comparatively light-seeded, furnished like thistledown with facilities for transportation, and so spread very rapidly where the conditions are favorable for their growth.

These, however, are details which have little to do with the general question under consideration. The main fact is that great success in any career calls for two things: natural ability, and a social mechanism to make this effective. Genius can reach high, as a rule, only when it stands on top of a culminating institution. When one looks off at the horizon of a rolling landscape he will notice two or three trees that seem to overtop all others. They seem to do so partly because they are really tall trees, and partly because they stand near the summit of the highest visible ridge. There may be higher trees in the valley —probably there are many equally high—but these do not appear. It is quite the same with men. The age of Elizabeth and the age of Lorenzo de Medici were, so to speak, natural elevations in the histories of England and Italy, resting upon which it was easy for genius to attain fame. I do not mean that they were superior, on the whole, to our own time, but they were more favorable to the development of certain sorts of ability. Individual faculty is real and powerful, and there is no greatness without it, but no man is tall enough to stand upright and fixed in the stream of history. He can at most swim

a few strokes against or across it. "Who can separate his ship from the waves on which it is floating?"

I trust I have made clear my reasons for thinking that estimates of the worth of races based upon the number and grade of the eminent men they produce, have no scientific justification unless it be possible to eliminate those social conditions that have quite as much to do with the matter as race. That such elimination is usually impossible, I suppose all will admit. To show, in a general way, the power of historical forces is easy, but to take exact account of them, to predict their future operation, to show just how they differ in different times and countries, and how much must be allowed for that difference, is, in the present state of historical science, quite out of the question. If, however, cases can be found where two races mingle and compete in the same social order, and under conditions substantially the same, a valuable comparison might perhaps be made. Are there any such cases?

The negroes and the whites in the United States could not be so compared, as Galton justly remarks. Neither, for similar reasons, would it be possible to compare the older English stock of the same country with recent immigrants of other races. Perhaps no cases can be found in which the use of the method is more defensible than in the comparison of the ordinary English with the Scotch and the North-Country men, suggested by Galton, and the comparison between the Jews and other races carried out by Mr. Jacobs in the paper published by the Anthropological Institute.[1]

The question here is whether the peoples mentioned are really on an equality in respects other than race. It is commonly reported that the standard of education and individual freedom among the Lowland Scotch is considerably higher than it is in England. Galton says as much, and contrasts the well-being of the northern peasantry with "the draggled, drudged, mean look of the mass of individuals, especially of the women, that one meets in the streets of London and other purely English towns." Now to assume that this degradation is due to inferiority of race seems to me to be a begging of the whole question. Before doing that it should be shown that nurture

[1] *Journal*, Vol. xv, p. 351.

and social conditions cannot thus degrade the members of a good race. I do not think it is possible to show this, and I would cite the comparison of East and West End Jews, already referred to, as indicating the contrary.[1]

If the comparison between English and Scotch were made at the time of Elizabeth it would seem to show that the English were a far superior race at that period, since Scotland was then conspicuously lacking in distinguished men.[2] If this lack was due to the backwardness of social development, how can we assume that the present apparent superiority of Scotland is not likewise due to social conditions, instead of to race? The men of the north may be "a fraction of a grade superior," but, if so, the fact needs further proof.

The author of the paper upon the ability of the Jews ascribes a great deal to their social conditions, which still differ much from those of the races with whom they mingle. Thus he explains their musical pre-eminence partly by "the home character of their religion, which necessarily makes music a part of every Jewish home." Again, "Persecution, when not too severe, has probably aided in bringing out their best powers; to a high-spirited race, persecution, when there is hope of overcoming it, is a spur to action."

Such comparisons, when made with as much thoroughness and caution as this one, are certainly interesting and valuable; and if they do not arrive at precise results they are no worse off in this respect than most social investigations.

On the whole it seems to me that the relation between genius and fame is fairly well represented by the comparison, suggested at the outset, of a farmer sowing mixed seeds in a furrow which traverses a great variety of ground. Here many come up and flourish, there none, and there again only those of a certain sort. The seed-bag is the race, the soil historical conditions other than race, the seeds genius, and the crop fame.

It is true that knowing so little as we do of the forces governing heredity and degeneration, we cannot be sure that the

[1] I could cite abundant evidence on this point, but do not suppose that it is necessary.

[2] Lombroso, *The Man of Genius,* English Translation, p. 154, makes a similar remark, ascribing the former deficiency of Scotch genius to religious intolerance.

seeds are sown with anything like uniformity, that the amount of natural ability produced from a given stock is approximately constant. But this is certainly the simplest supposition, and it would seem reasonable to accept it until the contrary is shown.

PERSONAL COMPETITION

IV

PERSONAL COMPETITION[1]

Its Place in the Social Order and Effect upon Individuals; with Some Considerations on Success

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I propose to discuss Personal Competition with no special reference to industry or commerce, but rather with a view to the part that it plays in social life as a whole, and to the effect it has upon the character and happiness of men. With this purpose I shall consider its function, its intensity, its relation to association, the conditions of personal success, the bearing of success upon morality, the effect of competition as regards sympathy, contentment and individuality; and finally, the standard of success. Of course the discussion of these subjects is very far indeed from exhaustive: my aim is to give a concise and connected view of principles and to suggest, at least, their application to existing social conditions.

Some of the matters treated are of a sort concerning which many people feel strongly, upholding conflicting views with a common

[1] Published as *Economic Studies* (American Economic Association), IV, No. 2 (April, 1899). Professor Cooley had been thinking about competition in its wider sociological aspects for a number of years. A short paper entitled "Competition and Organization" appeared in the *Proceedings of the Michigan Political Science Association,* I, No. 3 (December, 1894), pp. 33-45. These ideas had by 1899 developed to the proportions of this monograph. His last writings on competition and success constitute several chapters in *Social Process.*

vehemence. I cannot expect to reconcile these differences, which rest as much upon temperament and point of view as upon intellectual grounds; but I hope that discerning readers will find in what I say evidence of a painstaking desire to see the truth and to state it fairly.

I. THE FUNCTION OF PERSONAL COMPETITION

The function of personal competition, considered as a part of the social system, is to assign to each individual his place in that system. If "all the world's a stage," this is a process that distributes the parts among the players. It may do it well or ill, but, after some fashion, it does it. Some may be cast in parts unsuited to them; good actors may be discharged altogether and worse ones retained; but nevertheless the thing is arranged in some way and the play goes on.

That such a process must exist can hardly, it seems to me, admit of question: in fact I believe that those who speak of doing away with competition use the word in another sense than is here intended. Within the course of the longest human life there is necessarily a complete renewal of the persons whose communication and coöperation make up the life of society. The new members come into the world without any legible sign to indicate what they are fit for, a mystery to others from the first and to themselves as soon as they are capable of reflection: the young man does not know for what he is adapted, and no one else can tell him. The only possible way to get light upon the matter is to adopt the method of experiment. By trying one thing and another and by reflecting upon his experience, he begins to find out about himself, and the world begins to find out about him. His field of investigation is of course restricted, and his own judgment and that of others liable to error, but the tendency of it all can hardly be other than to guide his choice to that one of the available careers in which he is best adapted to hold his own. I may say this much, perhaps, without assuming anything regarding the efficiency or justice of competition as a distributor of social functions, a matter regarding which I shall offer some suggestions later. All I wish to say here is that the necessity of some selective process is inherent in the conditions of social life.

It will be apparent that, in the sense in which I use the term, competition is not necessarily a hostile contention, nor even something of which the competing individual is always conscious. From our infancy onward throughout life judgments are daily forming regarding us of which we are unaware, but which go to determine our careers. "The world is full of judgment days." A and B, for instance, are under consideration for some appointment: the experience and personal qualifications of each are duly weighed by those having the appointment to make, and A, we will say, is chosen. Neither of the two need know anything about the matter until the selection is made. It is eligibility to perform some social function that makes a man a competitor, and he may or may not be aware of it, or, if aware of it, he may or may not be consciously opposed to others. I trust that the reader will bear in mind that I always use the word competition in the sense here explained.

There is but one alternative to competition as a means of determining the place of the individual in the social system, and that is some form of *status,* some fixed, mechanical rule, usually a rule of inheritance, which decides the function of the individual without reference to his personal traits, and thus dispenses with any process of comparison.[1] It is possible to conceive of a society [2] organized entirely upon the basis of the inheritance of functions, and indeed societies exist which may be said to approach this condition. In India, for example, the prevalent idea regarding the social function of the individual is that it is unalterably determined by his parentage, and the village blacksmith, shoemaker, accountant or priest has his place assigned to him by a rule of descent as rigid as that which governs the transmission of one of the crowns of Europe. If all functions were handed down in this way, if there were never any deficiency or surplus of children to take the place of their parents, if there were no progress or decay in the social sys-

[1] The principle of length of service, so widely recognized in making promotions, is an example of a form of *status* unconnected with inheritance.

[2] As there has been much discussion concerning the meaning of this word it may be well to say that I use it, with conscious vagueness, to mean a totality of social relations. I also use the terms "social order" and "social system" in the same sense.

tem, making necessary new activities or dispensing with old ones; then, there would be no use for a selective process. But precisely in the measure that a society departs from this condition, that individual traits are recognized and made available, or social change of any sort comes to pass, in that measure must there be competition.

Status is not an active process as competition is; it is simply a rule of conservation, a makeshift to avoid the inconveniences of continual readjustment in the social structure. Competition or selection is the only constructive principle, and everything worthy the name of organization had at some time or other a competitive origin. At the present day the eldest son of a peer may succeed to a seat in the House of Lords simply by right of birth; but his ancestor got the seat by competition, by some exercise of personal qualities that made him valued, or loved, or feared, by a king or a minister.

Sir Henry Maine has pointed out that the increase of competition is a characteristic trait of modern life, and that the powerful ancient societies of the old world were for the most part non-competitive in their structure. While this is true, it would be a mistake to draw the inference that *status* is a peculiarly natural or primitive principle of organization and competition a comparatively recent discovery. On the contrary the spontaneous relations among men, as we see in the case of children, and as we may infer from the life of the lower animals, are highly competitive, personal prowess and ascendency being everything and little regard being paid to descent simply as such. The *régime* of inherited *status,* on the other hand, is a comparatively complex and artificial product, necessarily of later growth, whose very general prevalence among the successful societies of the old world is doubtless to be explained by the stability and consequently the power which it was calculated to give to the social system. It survived because under certain conditions it was the fittest. It was not and is not universally predominant among savage or barbarous peoples. With the American Indians, for example, the definiteness and authority of *status* were comparatively small, personal prowess and initiative being correspondingly important. The interest-

ing monograph on *Omaha Sociology* by Dorsey, published by the United States Bureau of Ethnology, contains many facts showing that the life of this people was highly competitive. When the tribe was at war any brave could organize an expedition against the enemy, if he could induce enough others to join him, and this organizer usually assumed the command. In a similar way the managers of the hunt were chosen because of personal skill; and, in general, "Any man can win a name and rank in the state by becoming 'wacuce' or brave, either in war or by the bestowal of gifts and the frequent giving of feasts."

Throughout history there has been a struggle between the principles of *status* and competition regarding the part that each should play in the social system. Generally speaking the advantage of *status* is in its power to give order and continuity. As Gibbon informs us, "The superior prerogative of birth, when it has obtained the sanction of time and popular opinion, is the plainest and least invidious of all distinctions among mankind"; [1] and he is doubtless right in ascribing the confusion of the later Roman Empire largely to the lack of an established rule for the transmission of imperial authority. The chief danger of *status* is that of suppressing personal development, and so of causing social enfeeblement, rigidity and ultimate decay. On the other hand competition develops the individual and gives flexibility and animation to the social order; its danger being chiefly that of disintegration in some form or other. The general tendency in modern times has been toward the relative increase of the free or competitive principle, owing to the fact that the rise of other means of securing stability has diminished the need for *status*. The latter persists, however, even in the freest countries, as the method by which wealth is transmitted, and also in social classes, which, so far as they exist at all, are based chiefly upon inherited wealth and the culture and opportunities that go with it. The ultimate reason for this persistence—without very serious opposition—in the face of the obvious inequalities and limitations upon liberty that it perpetuates, is perhaps the fact that no other method of

[1] *Decline and Fall,* Milman-Smith Edition, i, 305.

transmission has arisen that has shown itself capable of giving continuity and order to the control of wealth.

II. THE INTENSITY OF COMPETITION

By the intensity of competition I mean the relative amount of activity absorbed by the selective process. To make this meaning clearer suppose a country where children ordinarily remain in the same locality as their parents, where their choice of career is practically limited to a small number of trades or, in the case of the upper class, to three or four professions; where, moreover, one who has established himself in a trade or profession is fairly secure against being driven out of it, or of finding it undermined by new methods; there, I should say, the intensity of competition is small, that is to say each man devotes but a small part of his energy to finding his place in the social whole. That question is in great measure settled for him by the conditions just mentioned. On the other hand if neither place nor class confine him, if migration in search of opportunity is common, if the humblest-born may and do aspire to the highest places, and spend a large part of their lives in striving to attain them, if a man even when established in some niche in the social system can maintain it only by vigorous and continued endeavor; there the intensity of competition is great. Again, where things go on in much the same way one generation after another, without the creation of new kinds of activity or the extension of old ones, competition will be less intense than where a rapid creation of new functions involves selection to determine who shall perform them.

The greater or less efficiency of the selective agents is another important element in the matter. If they work promptly and surely they may do a great deal with a comparatively small expenditure of force, and the intensity of competition will be correspondingly diminished; while if they are inefficient they will, like any other bad machine, use up a great deal of energy without producing a corresponding result.

Accordingly it seems to me that the general relation between social conditions and the intensity of competition may be comprised in the following propositions:

The intensity of competition varies

1, with the degree of personal liberty;

2, with the rate of social change;

3, inversely as the efficiency of the selective agents.

The freer the individual the wider his field of choice in determining his social function, and the wider the field of choice the more active must the selective process be in assigning him his place in it. Of a child born in British India, it can be predicted with some probability what and where he will be thirty years hence; but a child born in an American village may be anywhere and anything, almost, at the end of that time: no one would venture a guess. In the one case competition has little to do; in the other everything. So with social change; unless it is mere decay, it involves new things to be done, new opportunities. For example, the electric industries, now employing hundreds of thousands of men, have arisen within a comparatively short time, and every man in them has found his place by competition. In an analogous manner the opening of new regions, like Oklahoma or the Klondike, the creation of an army, such as took place at the outbreak of the Spanish war, the revelation of new fields of research, such as was made by the publication of the Origin of Species, are inevitably the occasion for a selective activity to determine who shall be the settlers, the miners, the military officers, the investigators, that the situation demands.[1]

As to selective agencies, an all-wise despot would undoubtedly be the most efficient; and it is conceivable that he might give to men a great deal of personal liberty and provide for any amount of social change without much increase in the intensity of competition. This being out of the question, a society striving to be free and progressive must do the best it can to achieve rational selections through its organization. By just laws, by a public sentiment appreciative of every sort of merit, and, most of all, by a system of education calculated to discover and de-

[1] A local and temporary intensification of competition may result from a diminution of opportunity which forces many individuals to struggle for access to a few openings. This is perhaps what some people would be likely to think of in connection with the phrase "intense competition." But the changes which give a general and enduring stimulus to competition are of the opposite sort, are such as increase opportunity.

velop the special capabilities of each individual, it can do much to make its choices prompt, intelligent and just, and to avoid wasteful conflict. It is from this point of view that the existing state of things has been most effectively criticised; and writers who demand that competition be suppressed usually mean that we ought to replace irrational and destructive contention by intelligent selection.

The three propositions that I have suggested indicate the social conditions of more or less intensified competition. To these should be added a condition that is rather biological or psychological, namely the race traits of the people. An aggressive, ambitious, virile people, such as the Anglo-Saxon, German or Irish, is naturally competitive. Each man wants a great deal, and has little dread of migration, hardship, uncertainty, or personal contention, to deter him from seeking it. An Englishman or a German will seize upon all the opportunities in sight and demand more, where an Italian or a Spaniard would perhaps make no use of those that are at hand.

The principles above stated are sufficient to explain the fact, which seems to me unquestionable, that the present time is one when, among all progressive peoples, competition is far more intense than it has ever been in the past. They also explain why it is much more intense in some countries than in others, and in some parts of those countries than in other parts.

The diffusion of personal freedom among the mass of the people is undoubtedly, it seems to me, something that was never achieved on any large scale or for any long period, until within the present century. Such democracies as existed previously were small, of short duration, and at best gave comparatively little real personal liberty. The fundamental reason for this general failure of free institutions in the past I believe to be the fact that until modern methods of easy and rapid communication came into existence it was impossible to combine freedom with unity, order and control over wide areas. The unfree individual is controlled by custom, authority, physical necessity and other agencies that do not involve his intelligent choice: the free individual must be controlled by what we call the moral forces, by public opinion, patriotism, rational self-interest and the like. Now nothing but the newspaper, the tele-

graph, the railroad and the rest of the modern appliance of communication can enable the moral forces to be so organized as to act quickly and effectively over wide areas. Consequently freedom on a great scale was an impossibility in the past, and the large, stable, powerful states were based on *status* and authority. Personal freedom failed because it was the unfit; it is now succeeding because, under changed conditions, it has become the fit.

This is hardly the place to develop this view of the genesis of personal liberty, though I feel confident that it will recommend itself to the reflective reader. In the meantime it is certain that such liberty has increased rapidly and that it has correspondingly stimulated competition. Of the great nations the United States has undoubtedly partaken most fully of this tendency, Great Britain, next and Germany, perhaps, next. It is now well understood that the Latin nations, even republican France, are behind the Teutonic nations in this respect, the chief cause, apparently, being something in the race psychology of the two stocks. We find that in France, notwithstanding her unstable politics, the social life as a whole is quieter, based more on status and less on competition, than in the other countries mentioned. France "presents the spectacle of a tranquil people with agitated legislators." [1]

The first principle, then, gives one reason for intense competitive activity in the United States: a consideration of the second will show how greatly this activity is stimulated by social change. The changes that this country is undergoing may be divided into two classes, those that are world-wide, which it shares with other countries that are in the current, and local changes incident to the development of a new country. The former have intensified competition everywhere, the latter give it a peculiar vigor and a special character among us.

The thought of the industrial revolution and of the radical social changes of every sort that have grown out of it is so familiar that I do not care to dwell upon it. Not industry only but family life, social relations, science, education, philosophy and religion are in process of transformation as a result of this movement. In all these fields, though most consciously

[1] Quoted in Bodley's *France*, i, 57.

in industry—because that gives occupation to the vast majority of the people—we have intenser activity, more striving, more success and more failure, a constant breaking-up of settled relations. Great cities, which are incidental products of the new *régime,* are in all countries the *foci* of competition, and show most conspicuously its good and evil results. Populated by immigrants, tradition and *status* have little hold upon them, either for good or evil: their industries, their institutions, their social and moral conditions, are new and unregulated.

To all this a new country adds the special series of changes incident to the passage of each part of it through those steps of development, from the rude agriculture of pioneers to the full maturity of manufactures and commerce, which would suffice to produce a restless and competitive condition of things, even if the course of life in older countries were quite uniform and regular. This series is so mingled with the other that it cannot well be studied separately, but its influence appears clearly in the general result. It is chiefly, I think, because they have this additional strain upon them that Americans are thinner, quicker, more nervous and restless than their English kinsmen: it is for this reason, I should say, rather than on account of the difference in climate, that people walk faster upon the streets of Chicago than upon the streets of London: and this helps to explain, also, why, in spite of an unequalled expenditure of ability and energy, so much remains undone in the United States that other nations have achieved.

And moreover the disintegration that accompanies all these changes affects the selective process itself, and tends in some measure to exaggerate the intensity of competition and lower its character by making it wasteful, unjust, brutal, anarchical. The just laws, the effective moral sentiment adapted to the various conditions of human activity, the adequate educational institutions, which ought to preside over and assist competition, being things of slow growth, are largely wanting just when they are most needed; and we have as a result the disorganization which is so often portrayed, not without some extravagance, by the advocates of radical reconstruction.

Whether this great intensity of competition is on the whole a good or a bad thing cannot be determined satisfactorily until

the period is past and we can see what comes of it; perhaps not then. The matter will frequently come up in the further course of this essay. In general it may be said here that the present *régime* certainly does great things for those individuals whom nature and training have fitted to thrive in it, developing energy, self-reliance, strength of character, and power and efficiency of many sorts; but bears with blind severity upon the weak, the misplaced and the unprepared, among whom are many who in circumstances more fortunate would take an honorable and important part in the general life. The moral and social forces that should prepare and support men share in the general disturbance and disintegration; character as well as ability is mercilessly and unfairly tried, and the access of strength to those that stand the test is more or less offset by the demoralization and degeneration of those who do not. Whole classes of the population, institutions, nations, modes of thought, may suffer retrogression. Thus it may not be true, as some believe, that the Negro race has deteriorated under the moral strain of emancipation, but there is nothing absurd in the hypothesis. Or we may plausibly ascribe the pessimism and sensualism of French literature to a decay of religious faith which has not been made good by the adequate growth of other elevating influences. Local retrogression undoubtedly exists all about us. There is strong evidence that certain portions of our immigrant population suffer moral deterioration, perhaps temporary, under the influence of American life. Corrupt conditions of business are common enough, though not so general as many suppose, and are found principally in new industries, new forms of association and, in general, where business morality has not had sufficient opportunity to develop. Political corruption, which flourishes most in great cities and among immigrant populations, may be looked upon as coming in part under the same general law. To discuss these questions fully would take us too far; it will be easily understood that a thorough examination of the effects of intense competition would bring within our range all the pressing social problems of our time.

Meanwhile it is well not to forget that even in the United States this restless activity is by no means general, but is

confined to the frontiers of social change. The majority of the people live in rural communities and, though more wide-awake and changeful than rural populations elsewhere, are not in danger of demoralization by excessive mental strain. While very intense competition is a characteristic of the time and place—that is, there is more of it here and now than elsewhere or ever before—it is far from being universal.

We must also bear in mind in this connection that any diminution of the intensity of competition is inevitably accompanied by an advance in the alternative principle of *status*. In our eastern states, as conditions become more settled, social classes are correspondingly delimited. The family line, always the most tenacious strand in the social fabric, renews its continuity and its hold upon tradition, fellow-feeling, and other parts of the social structure; inherited wealth and position create differences in education, manners and associations; and the resulting class sentiment prevents free intermarriage and increases the difficulty of rising from the manual laboring to the professional and commercial class.[1]

I do not mean to imply that we have here merely a see-saw between alternative evils. It is possible to combine, in a considerable degree, the advantages of competition with those of stability, to keep opportunity open after tranquillity is assured. For example, a system of free technical education which should bring home to every boy in the land the opportunity to secure the best training in any career for which his natural capacity fits him, would promote competition of the best kind without producing any serious ill to offset the good. The question of good or ill is quite a different one from the question of *status* or competition: either of these principles may work very well or very badly. We must try to combine the better forms of each in such a way as to produce the best general result.

Nevertheless it would certainly indicate a lack of insight if a person who deprecated intense competition of all kinds as a great evil should also attack such strongholds of *status* as the inheritance of property and class sentiment; since any demolition of these portions of the social structure must inevitably be

[1] See A. F. Sanborn, "A Massachusetts Shoe Town," *Atlantic Monthly*, August, 1897.

compensated by increased competition of some kind or other. There are no other organizing principles in society beside these, and what one does not do the other must. If, wealth, for example, were not inherited, the death of a rich man would call for some sort of a selective process to determine what person or persons should control his estate; just as the substitution of a president chosen by the people for a hereditary monarch involves increased competition in the form of elections.

III. THE RELATION OF COMPETITION TO ASSOCIATION

Where there is a common interest it is rational to pursue it through united action. There is at present no necessity to combat the error, ascribed to the classical school of English economists, that competition is the natural state of man and combination something irregular and unnatural. The tendency is perhaps rather toward the opposite error, namely, that of assuming that competition is the irregular and unnatural thing and combination alone normal. The two, of course, are supplementary and each has its proper sphere. One is achievement, the other process. Competition is an organizing force, and its relation to association is—as Hamerton said of the relation of truth to beauty in art—one of inferior rank but prior necessity.

The usual way of thinking and writing about these two appears to flow from an idea of separateness and inconsistency between them that does not correspond with the facts. Though perfectly distinct as principles they are inextricably interlaced in human life. Every one of us is a competitor in several or many fields, while he is at the same time a member of various co-operating groups: and—what seems somewhat surprising—we are likely to compete with the very persons with whom we co-operate. For example, every important branch of trade has a rather elaborate system of co-operation, including associations, trade-journals, price agreements, and the like; yet it is among those who follow the same trade that competition is most severe. Again, here is a factory full of operatives joined together in a labor union for the furtherance of common interests; yet they inevitably compete among themselves—for

reputation as workmen and advancement in grade, for office or influence in the union, and probably in many ways not directly connected with their work. It is the same with any active group. The faculty of a university is an illustration of organized co-operation of the highest type; but there is always competition among its members, for the furtherance of individual views of educational policy, for professional reputation, and the like. As I have pointed out, no active person escapes competition for a day. It goes on often when he is quite unconscious of it: that is, his action is affecting judgments and influences that will ultimately determine, in some measure, his social function and career.

Nor is there anything irrational in this interlacing of the two principles. It is rational to co-operate as regards common interests, and at the same time to compete as regards interests which are divergent or undetermined; and this is what men do.

Co-operation, then, arises when men see that they have a common interest, and have, at the same time, sufficient intelligence and self-control to seek this interest through united action: perceived unity of interest and the faculty of organization are the essential factors in intelligent combination. This power of timely and effective "getting together" is one of the things that chiefly distinguish the abler races of men from the weaker, and would of itself suffice as a test by which to arrange the various nations of the earth in an ascending scale of ability. With good reason we congratulate ourselves that the American people, as a result both of nature and training, possess this faculty in a comparatively high degree, although they are at the same time a notably competitive people. There is nothing inconsistent in this: to compete vigorously and combine promptly is to be expected of men who are at once aggressive, sympathetic and intelligent.

Because it requires intelligence and energy, because it is difficult, intelligent co-operation always lags behind the need for it; and we have the rule that competition, once set up, is likely to persist beyond the point where it ought to be dispensed with.[1] Owing to this fact it is, in our own time, not

[1] In this connection the reader will recall the notable essay by Professor Giddings on "The Persistence of Competition," in the *Political Science Quarterly* for March, 1887.

only intense but quite often excessive: it continues when it might better yield to co-operation. When the selective process has performed its function, when it has answered the question, what is the fittest, as well as it can, it ought to cease and give place to organization. To prolong it beyond this point is wasteful and destructive, the principle involved being the same as that rule of humane warfare which declares that the sacrifice of life ought not to continue when the result ceases to be doubtful. The failure to cease is an evil characteristic of a time like the present when the work of breaking down obstructive organization, the outworn machinery of the past, has been pretty well accomplished, and the time for reorganization has arrived. During the breaking-down period the great need is to introduce the competitive principle; but when this has been achieved, and the building-up period has set in, the great need is to check it. If we look about us we see almost everywhere a condition of disintegration, of working at cross purposes, which gives much color to the views of those who charge the age with "anarchical individualism" and call for repressive control. Trades unions, for instance, are far from performing their proper functions, the lower grades of labor being unorganized, and the unions among the higher frequently unstable and apparently ill-conducted. In almost every branch of trade competing agencies are multiplied beyond what is necessary or economical: there seem to be too many small groceries, drug stores, hardware stores, shoe stores, restaurants and the like; that is, the goods they supply could be furnished cheaper if the same energy were concentrated upon fewer establishments. It is well known that more railroads have been built, in many instances, than there is any need for, and the rate-wars that frequently take place have been shown to be injurious to the public as well as to the stockholders. We hear also that there are too many small churches, too many small colleges; and so on.

This state of things is slowly working its own remedy: the tendency, the current, is clearly toward organization. This is decidedly a time of "getting together," though the results so far achieved are small compared with what is needed. It is surprising to note the number and variety of conventions that

take place in one of our larger cities during the summer months. From the advancement of science to bill-posting, almost every reputable occupation seems to have general interests which require the attendance of delegates at an annual meeting; not to speak of the hundreds of social and benevolent societies. The rise of department stores, the multiplication of private industrial corporations and the formation of trusts are, of course, an outcome of the same tendency. Organization, since it brings power and success, is coming rapidly; and the very process of its coming introduces a new set of problems, *problems of symmetry* in growth. Some forms of organization, like the private corporations just mentioned, outstrip other forms which are required to balance or control them—legislation, for instance, administrative machinery, economic science, trades-unions—and we have an overweening growth of power, which gives rise to much wrong, much protest and to extravagant projects of reform. In this lack of symmetry, this narrowing of contemporary development into a few channels while others are almost dried up, is to be found the cause of many if not most of the evils characteristic of our time.

I am as far from sharing the apprehensions of those who see a "coming slavery" in the growth of organization as I am from joining in the indiscriminate condemnation of competition. No fear need be entertained of the disappearance of competition: it is quite as firmly rooted as association. The two will continue to subsist side by side while varying indefinitely in form and character. Those who cry "Look out for slavery!" as well as those who cry "Look out for anarchy!" are seeing ghosts which will hardly materialize. The future will have its urgent problems, of which the problem of the regulation of great associations will certainly be one, but there is no reason to despair of accomplishing this regulation, and much reason to hope that, if properly regulated, the development of rational organization will increase and not diminish the freedom of the individual.

The proposition that competition is an organizing force or process appears, at first sight, to be opposed to the views of some very distinguished writers from whom I should be sorry to find myself at variance; but I think this apparent opposition

is more a matter of difference in the use of terms than anything else. The word competition is used by them as equivalent to what I should call bad competition; and their projects of dispensing with competition are such as I should describe as projects for displacing a lower form by a higher. Professor Lester F. Ward, by a very striking comparison, has vividly illustrated the principle that the mere blind struggle for existence, the natural selection of the animal or vegetable worlds, is suited only to the early stages of organic progress, and becomes wasteful and repressive when continued beyond the point where it can be replaced by intelligent selection. He says:

> Once, when herborizing in a rather wild, neglected spot, I collected a little depauperate grass that for a time greatly puzzled me, but which upon analysis proved to be none other than genuine wheat. It had been accidentally sown in this abandoned nook, where it had been obliged to struggle for existence along with the remaining vegetation. There it had grown up and sought to rise into that majesty and beauty that is seen in a field of waving grain. But at every step it had felt the resistance of an environment no longer regulated by intelligence. It missed the fostering care of man, who destroys competition, removes enemies, and creates conditions favorable to the highest development. This is called cultivation, and the difference between my little starveling grass and the wheat of the well-tilled field, is a difference of cultivation only, and not at all of capacity. . . . I look upon existing humanity as I look upon a pristine vegetation. The whole struggling mass is held by the relentless laws of competition in a condition far below its possibilities. Just as what might be grain is mere grass, just as the potential greening is a diminutive crab-apple, so the potential giants of the intellectual world may now be the hewers of wood and the drawers of water.[1]

The remedy Professor Ward shows to be education, in the broadest and truest sense of the word, the surrounding of each individual with that environment most favorable to the development of his faculties.

I sympathize heartily with the views thus eloquently set forth.[2] If the selective process is to be progressive and not

[1] "Broadening the Way to Success," *The Forum,* December, 1886.

[2] I have maintained views somewhat similar, as regards fundamental conceptions, in an essay on "Genius, Fame and the Comparison of Races," published in the *Annals of the American Academy of Political and Social Science,* May, 1897. (See p. 121.)

retrograde in its tendency it must pass continually to higher and higher levels as society advances; it must become more rational, more economical, more moral, more just, more free. In the present connection, however, it is fair to add—what I imagine Professor Ward would readily admit—that in point of difficulty social selection presents a wide contrast with the case of the wheat, and that existing competition, bad as it is in many respects, has a relative justification, or at least an explanation, in the fact that it is the only organizing agency available. Some of the points of contrast that I have in mind are the following:

1. Social selection must have in view not one simple type of excellence to be preserved and developed, but an enormous number of divergent types, matching the complexity of social functions. Not the wheat only but every species and variety of plant that grows calls for a garden plot of its own, and a special culture. We scarcely dare assert that there are any weeds at all on the social roadside, some authors holding that every child that is born is fitted to take some useful part in the general life. We can transplant and arrange, trying to accommodate each so far as practicable in the matter of soil and climate, but selection, as the wheat is selected, involves the suppression of other species, and that, in view of the complexity of which I speak, we scarcely dare attempt. If the problem were to develop large men, or strong men, or blue-eyed men, or mathematicians, or musicians, and we could rank all other types as weeds and mercilessly plow them up, the matter would be quite simple and easy. But because such arbitrary selection of types to be favored would be intolerable, we put up with a somewhat blind and anarchical struggle as the lesser evil. In short, we cannot select rationally because we do not know what we want. We know very well what we wish to get out of a grain of wheat, but in the case of a child we do not know.

2. In the case of man there are no visible external traits or "characters" which can be used as trustworthy guides to selection. Darwin, in *The Origin of Species,* noted the reliance upon such traits as a weakness of all artificial selection; and in the social order this weakness becomes so pronounced as to be absolutely fatal to all schemes for setting an *a priori* valuation upon men. The most plausible principle of *a priori*

valuation, that of heredity, which was so generally adopted in the past, is, of course, hopelessly discredited as a basis for social organization. Because of this lack of reliable signs to go by, social selection can never be the simple act of a presiding intelligence, like the selection by man of types of animals or plants but must be competitive, in so far as that each person must be permitted and assisted to form his own idea of what he is fit for, and to show what he can do by doing it. We want a competition that shall bring a gentle but firm pressure to bear upon all persons, urging *and aiding* them to find something useful that they are fit to do, and then to do it faithfully. Progress, as Professor Ward so warmly urges, must be along the line of a scientific educational process which shall not so much select for the individual as help him to select for himself; and the test, to find out by comparison with others whether he has chosen rightly or not, can never, it seems to me, be dispensed with.

3. It is scarcely necessary, perhaps, to add that even if the problem were soluble from a scientific standpoint the practical treatment of it would remain extremely difficult on account of the lack of a single, paramount and intelligent will to play the part of the wise despot who plants the wheat and ploughs up the other grasses. The "sociocracy" which Professor Ward has taught us to look to as the instrument of rational progress, must clearly be somewhat slow in its growth, the ripe achievement of an intelligent, self-controlled and well-organized democracy. In the meantime we must do the best we can.

Another point which ought to be considered in estimating the work which competition, as an organizing process, has to do, is the degree of natural adaptation that may be assumed to exist between the innate capacities of men and the society in which these capacities are to play a part. The optimistic view is that there is a place for every one, and that the only question is how to get every one in his place; that each man has some special aptitude that only needs opportunity for development to make him both happy and useful. Thus as each one has properly a distinct object of ambition, different from that of every one else, "every man, by his success in the pursuit, does not hinder but helps his competitors." "Every

individual has a bias which he must obey, and it is only as he feels and obeys this that he rightly develops and attains his legitimate power in the world." [1] The competitive process is thus conceived in its highest form, as an amicable testing and comparison of powers, with a view to securing the happiness of all, by helping each to find his own peculiar and appropriate work. It is like the preliminary practice of a football team to determine what place shall be assigned to each player: every one, presumably, wishing to have that position in which he can gain most applause by contributing most to the common success. The aims of the individual and of the whole are the same.

There is a great deal of truth and encouragement in this view; it sets forth in one of its aspects the ideal towards which competition should aspire. We ought to strive for this state of things, and we can approach if not attain it. But the ascertained principles of evolution, as I understand them, will by no means permit us to assume a perfect natural adaptation between men and society. The fact seems to be rather, that the social order, continually changing, makes ever new and more trying demands upon humanity; that men, from the point of view of social organization, are to be looked upon as a mass of rough material, all of which is more or less imperfect, and some part of which, a part that might be greatly diminished by better husbandry, is unavailable. This part must be separated out and the remainder must be planed, sawed and tried here and there until fitted, with a view to getting the most use out of it with the least waste. A ready-made fit is quite exceptional. Each of us is fitter for some places than for others, but no one is fit for anything without a course of education and discipline, whose purpose is to produce an adaptation to social existence for which nature, at most, supplies only the undeveloped capacity.

It can hardly be necessary to argue at length that competition, however defective, does the work better than *status*, and that the real question of practical moment is that of increasing its efficiency. In this direction there is everything to be done, and the means, speaking generally, is the development of ra-

[1] Emerson, "Essay on Greatness,"

tional organization in every form, and particularly in the form of special selective agencies, chiefly educational, to supplement and in part to replace the somewhat blind and irrational competition that accompanies rapid change. It is a question of the quality of competition rather than of its quantity. The selective process should begin farther back, in an intelligent and truly free system of education, opening to every child opportunity and incitement to find out and pursue that career for which he is naturally best suited. The principle of *status* now persists in the too mechanical uniformity of education, and in its general failure to supply appropriate special training to the great mass of the people. The rising demand for a greater individualization in schools, for special study of each child with a view to making the most of him and teaching him how to make the most of himself, for manual-training and trade schools accessible to all, is a demand for a more rational and open competition. In the lack of these things children, who need freedom most, are not free, but bound by the condition of their parents, and by the habits and ideas which they contract from their early associates and surroundings. Freedom is a positive and not a negative thing; it is to be secured not by mere letting alone, which is often abandonment to enslaving social conditions, but by rational social agencies deliberately organized to secure it.

True freedom, healthy organization and the highest type of competition inevitably go together; they are, indeed, various aspects of the same thing. Freedom is possible only through open competition and through an organization that promotes the highest development of each individual: the best organization is not only the outcome of rational freedom and just competition, but is also a means of securing these; in other words the whole social structure and process is an organic whole which can be bettered only by a general advance all along the line.

Our time, as already suggested, is one in which, old social structures having gone to pieces, we are slowly and tentatively building up new ones. In the meantime the social process is at once intensified by the extraordinary call upon it and somewhat confused and demoralized by the failure of the structures which

normally control and direct it. Our cities, especially, are full of the disintegrated material of the old order looking for a place in the new: men without trades, immigrants with alien habits and traditions, country boys and girls who have broken loose from their families and from early ties and beliefs, college graduates ignorant of the intellectual progress of the past fifty years, young theologians whose creeds the world has ceased to believe, and so on. There is no adequate means of dealing with this refractory material. Some of it is quite spoiled, and the moral and educational agencies, the customs, standards, traditions, associations and laws, required to assimilate the rest to the needs of the situation, cannot be created in a moment. In such a state of things competition becomes the immediate occasion of a great sum of misplacement, confusion and suffering for which nothing but the situation as a whole is responsible.

The charge that it is a failure as an organizing process, that it puts the round men in the square holes and *vice versa,* causing dissatisfaction to individuals and detriment to society, will appear true or false according to the point of view from which one regards actual conditions. If one holds that each man is by nature fitted to perform some special function in the social system, that there is always something waiting to be done that he can do better than anybody else, and in doing which he finds his own happiness; if one blinks the difficulty of finding out just what this special function is, of educating the faculties to perform it, and of making a way through the throng to the place where it is to be performed; then he will be likely to pass a severe judgment upon the existing order, in which there are many total failures and innumerable misfits. But if he does justice to the difficulty of the problem, rejects as unsound the theory of perfect natural adaptation of men to functions, and compares competition, even in its present form, with the working of the alternative principle of *status,* he will easily discover much good that we must hold on to, as well as much ill that we must try to cast off.

There is no clear dividing line between individual and group competition. In a certain sense it may be said that there is no individual competition, since the competing person always

draws aid and support of one sort or another from other persons. So far as a man is social, and not merely animal, he is the center, and in a manner the product, of a complex web of relations and influences from which he can in no way be separated, unless by death. By "group," however, is ordinarily intended, in this connection, a definite association with distinct purposes and organization.

One of the chief purposes of the creation of such definite groups is to compete more effectually. They are tools devised by men to further their personal aims, and so far as the aims thus furthered meet with opposition the group becomes a competing agency.

The main differences between a person as a competing unit and an organized group are the greater power and permanence that the latter may have, and its impersonality, the fact that, as is said of corporations, it "has no soul." Its action is not necessarily conditioned by that psychological unity of the various elements of human nature that exists in a person. In joining to create a social mechanism for the achievement of some special aim, such as exploiting a mine or electing a candidate to public office, a man isolates a certain part of himself, a certain wish or purpose, and sends it off by itself, so to speak, to work independently of the rest of his aims and impulses. Other men do the same, and the result is essentially mechanical, and not human. The man, as a moral whole, is not in it; it is only a faggot of parallel interests. The man extends his reach, but in doing so he loses immediate control of the organ, and with that is likely to go all vivid sense of responsibility. The action of an organization is not necessarily lower, morally, than that of the individual men who create it, but it is likely to be; it is not so accessible to control by sentiment, by public opinion, by pride, vanity, and other peculiarly human influences. As members of a corporation, a legislature or a party, men will share in doing things which they would not do if they were to be held personally responsible for them. It is also true that as members of philanthropical and educational organizations men frequently build better than they know, better than they seriously or continuously intend.

The fact that definite associations are more numerous and

more specialized than they have been in the past increases this impersonal tendency. This circumstance, which is connected with the increased facility of association effected by modern communication, brings it to pass that the modern man shares in many associations, each one of which is narrowly restricted in its aim, and of course feels a personal responsibility for each in inverse ratio to their number. The broader association of the past, for instance the medieval trade-guild, embracing almost the whole social, æsthetic and religious life of the individual, must have been a more *human* thing than the modern corporation or trades-union.

These two attributes of competing organizations, power and impersonality, together with the fact that they are, for the most part, new and unassimilated elements in the social system, entirely justify the expectation that they will require special and somewhat stringent means of control. All forms of power must be controlled and subordinated to the general life and aims; freedom means not the diminution of such subordination and control but the substitution of higher forms for lower, the replacing of tradition, authority and *status* by something that works upon intelligent choice through appeals to feeling or principle. Organized groups being comparatively little amenable to these higher forms of control must be correspondingly subjected to the lower, that is to legal restrictions: being impersonal they cannot share fully in the growth of personal freedom.

An important and substantially new problem is thus introduced into political science by the rapid rise of powerful and highly-specialized private associations. In the past it has been the policy, I believe, of all stable governments to control strictly, if not to repress, organizations formed independently of them. This is still largely the case outside of the United States and Great Britain. There is no freedom of association in Russia; and little in France or Germany compared with what we enjoy. In the United States the legal presumption is, and should be, in favor of the beneficence or harmlessness of all exercise of private initiative until it appears by experience to be harmful. Where harmfulness does appear the question before our jurists and legislators is, just what control is required and how may

it best be applied. The matter is greatly complicated by the fact that not only are the forms of association new and hard to manage, but the industries themselves, which the associations carry on, are largely new also, and would require a new body of law simply as industries, even if they were carried on by individuals. Thus, in connection with railways we have two distinct classes of questions, the corporation problem, including what relates to the form of organization, questions common to this and to other great industries, and the railway problem proper, arising from the special nature of this particular industry.

The matter may be summed up by saying that, as before hinted, it is a question of symmetry in development. Urged on by the necessities of the situation, industrial activities, and the social relations arising from them, have far outstripped other activities which, in a symmetrical social order, should balance and control them. This fact is patent everywhere; it is the key to the whole situation. Law, religious belief, art, moral standards, have been left far behind; and the great need of the time is that they should catch up with the procession.

Owing to this backwardness of the means of control, group competition, even more than any other sort, is in a state of partial anarchy or border-ruffianism. These gigantic, unmoral creatures are restrained, if at all, rather by the primitive fear of retaliation than anything else. Things are in the fighting stage, which has not yet brought to light the conditions of equilibrium, and given place to that subordination to rule that characterizes an orderly society.

IV. CONDITIONS OF SUCCESS

I wish to avoid the utterance of platitudes upon this familiar though always interesting subject, and shall therefore content myself with attempting to indicate in the most general way, the relation between success and the social order. The discussion must be very indefinite owing to the fact that the conditions of success are a function of the particular social organization, so that every field of endeavor, every social group, has in some measure its peculiar requirements. The point is

to set forth those requirements that are almost universal, and to show how they are related to the competitive process.

Generally speaking the world requires of a man two classes of faculties, which may be roughly described as the special and the social. The first distinguish him from other men and enable him to perform some more or less peculiar function; the second unite him to other men and enable him to put his more special aptitudes into a wholesome and fruitful relation to the world at large. It is very well if nature and education have made one a master of the technique of carpentry, or banking, or medicine, or law, or any other specialty; but as a rule this will do little for a man if he does not add to it those social and moral qualities which enable him to place and keep himself where his gift is available, and to exercise it in such a manner as to make it an effectual working piece of the general mechanism. Special ability is a helpless thing unless it is supplemented by general ability.

These two requirements evidently arise out of the very nature of organization. Just as the special structure of the eye is meaningless and dead without the nervous mechanism that unifies it with the whole, so, I may also say, is a man who has special faculties without social faculties. Moreover since these two requirements spring from the same root, the need of organic life, they do or should develop equally. The more highly specialized a social system becomes the greater should be the development of the unifying and co-ordinating activities of every kind: and as regards the individual this means that more and more will be required of him in the way of intelligence, morality, self-reliance, and the like. Under favorable conditions individualization and socialization proceed *pari passu;* and I recommend this suggestion to the consideration of those who believe that the increasing specialization which marks our time necessarily involves the narrowing and dwarfing of personality. On the contrary it calls for a larger, richer personality; and that is what must in the end prevail.

In order to make my meaning clearer let me dwell for a few moments upon certain familiar and generally-valued elements of personality—such as self-control, enterprise, perseverance, address, and "common-sense"—with the purpose of showing

that they are very much in demand in a competitive society, and that the call upon them increases as such a society becomes freer and more complex.

In every social career a prime demand is steadiness: it matters little what the task is, the incumbent must be faithful to it, he must be one upon whom the world can depend to be at his post doing work of standard quality. To illustrate this in detail and to show that unreliability spells failure would be superfluous. The demand for this trait is steadily upon the increase; since the greater the complexity and interdependence of the social order the greater the need of soundness in all parts of its structure. The unreliable man is a public nuisance; and the wider the relations in which he is involved the more intolerable he becomes: there is really no use for him, and he inevitably falls into the class of those who can expect only casual employment. The moral quality underlying steadiness is of course self-control, the power to subordinate passing impulses to a rational rule and purpose; the lack of this is social degeneracy, and is perhaps the most common cause of failure.

Enterprise may be described as a disposition to make experiments upon life, and perseverence as a disposition to make those experiments conclusive. From earliest infancy, as any observer of children may see, the method by which we advance in knowledge and power is what Professor Baldwin calls the try-try-again method, the only one, indeed, by which progress is achieved in any sort of endeavor. In social life this becomes enterprise, aggressiveness, a habit of making intelligent plans and of actively attempting to carry them out. In a competitive society every one must undertake and execute a voyage of discovery whose object is to find out his own proper relation to the world; and if he is to accomplish anything much above the common he may need as much courage as Columbus. The leaders of men, the successful innovators of every sort, are first of all explorers; and in this regard the requisites for success are much the same in science, in literature, in war, business and politics, as they are in navigation. It took the same sort of qualities, in part, for Darwin to spend twenty years in thinking out and demonstrating the origin of species by selection, as it did for Columbus to carry through his project for a

westward voyage to the Indies, or Napoleon to plan and execute his schemes of European conquest. And something of this is required for success of any sort where opportunity is open. The wider the field of opportunity, the more necessary it becomes to explore it, the greater the need for that self-knowledge and self-reliance that can only come by bold experimentation. Accordingly the standard of courage and enterprise up to which men must come if they are to hold their own increases with the growth of liberty.

Perseverance, as I just suggested, is required to make this experimentation thorough. In the prosecution of all endeavors there are times of doubt and discouragement, dead-centers at which the propelling forces cease to act. At such times the whole matter of success or failure usually hangs upon the question whether the person has formed that *habit of keeping-on* that constitutes perseverance and gives momentum to his undertakings, or whether, on the contrary, he is a victim to the fatal *habit of leaving-off,* which will condemn the most exceptional talents to futility. And the need for thoroughness undoubtedly increases with the advance of civilization: "the fields for long-ranged, cumulative efforts, are wider, more numerous and far more needy" [1] at the present time than they have ever been in the past.

Address or *savoir-faire* appears to be based upon a sympathetic insight into human nature, guided by intelligence and steadied by a natural coolness or phlegm. It is also closely connected with the qualities mentioned above, since it is developed or educated only by practical endeavor to further one's purposes in the world. It is social facility in the largest sense, skill and efficiency in dealing with the infinitely variegated forces of the social environment. It is a faculty that is necessary to every one in the early part of his career, or at times of change, in order to make his way through the social medium to the place where he can bring his special abilities into play. The young mechanic looking for work, the medical graduate seeking to start himself in practice, the business man trying to re-establish himself after some unforeseen change has driven him from one branch of trade, the artisan thrown out of em-

[1] Stanley Hall in *The Pedagogical Seminary,* ii, 74.

ployment by the closing down of a factory—each needs, first of all, some tact and force in dealing with men which shall enable him to face the world and induce its occupants to make room for him. And in most careers, especially in those which are looked upon as the higher ones, those which involve power and leadership, the necessity for these qualities is perennial. Their importance is seen in the fact that those who possess them are often remarkably successful even if their other faculties are quite commonplace. No matter what the original sources of power and wealth may be, the man of address will know how to tap them. The inventor of the machine often remains in his original poverty, while the able promoter reaps the reward of his success.

I would not, however, push this last suggestion too far, because I believe that address is normally and usually based upon character and sympathy, and therefore associated with the better qualities of human nature rather than the worse. It is something very different from mere cunning, which is seldom or never accompanied by that breadth of view and insight into the higher as well as the lower workings of human nature, which go to the making of what we call "a man of calibre." Generally speaking, the successful man must have a good measure of our common humanity, because without that he cannot know men or gain their confidence. Antonio will make a better president of a railroad company than Shylock. At the same time, perhaps just because he has this common humanity, the man of address is not likely to rise much above the general level in point of morality. He is usually a conformer, a

"Mortal mixed of middle clay."

The need of address evidently increases with the increase of liberty and the general enlargement of life. There is a growing demand for competent men to act as organizers, and at the same time a greater call upon men in general for social facility. The more progressive a society is, and the more sorts of progress are going on at the same time, the more it needs leaders, men who know how to guide the forces, how

to distribute them in the most effective order, and to assign to every one the duty that he can best perform. There were never so great and varied opportunities for this sort of ability as at the present time, whose most urgent need is the organization of its abundant energy. And one of the first requisites in such a leader is that faculty of promptly estimating men which enables its possessor to put them where they will be most useful.

> Jedwedem zieht er seine Kraft hervor,
> Die eigenthümliche, und zieht sie gross.
> Lässt jeden ganz das bleiben was er ist;
> Er wacht nur drüber, dass er's immer sei
> Am rechten Ort; so weiss er aller Menschen
> Vermögen zu dem seinigen zu machen.[1]

Every successful mechanic, in a free society, becomes more or less a man of the world: he knows the minds of many men, learns to make his way among strangers, and to fall upon his feet when he is thrown off them by one of the frequent displacements incident to social change. His standard of manners may be, in some trifles, different from what prevails in a richer class; but in the essentials of bearing, address, knowledge of men, self-respect, he is often a true man of the world, and his *savoir-faire* does not differ fundamentally from that of the statesman.

I shall not dwell at length upon common-sense, so much, yet not excessively, eulogized. We seem to understand by it a symmetrical and humanized intelligence, not necessarily quick, acute or original, but broad enough to contain a true reflection of life as we find it. It is rather a just equilibrium of primary faculties than any special trait; and as such is the foundation of sane and effective action in every situation.

Of course I do not offer these observations as an adequate enumeration and exposition of the conditions of success; but I trust that what I have said will be sufficient to suggest the main tendencies. Each social group, as I have already remarked, has in some measure its own peculiar conditions of success, perhaps making great demands upon some qualities and scarcely any upon others. Yet there is, after all, a sort of type of the successful man, that is, an assemblage of qualities

[1] Schiller, Wallenstein's Lager, i, 4.

all of which are important to almost any sort of success. It will be apparent that while I have said nothing about goodness, which is a word of no accepted meaning, I do hold that this type is distinctly human and, in a general way, moral; that is, the qualities called for are, as a whole, progressive rather than retrogressive. I know, however, that this conclusion is apparently inconsistent with some facts of observation, and that many seem inclined to an opposite opinion. In order to show more clearly the trend of my views and the manner in which they may be reconciled with the facts alluded to, I propose to take up some of the more common criticisms of the working of competition upon individual character, and consider them with the purpose of analysis and explanation rather than controversy. In this way I shall discuss the morality of competition, its relation to sympathy, and its supposed tendency to inflict insecurity, discontent and strain upon mankind.

V. SUCCESS AND MORALITY

If it were true, as some persons seem to believe, that immorality is on the whole more favorable to success than morality, the outlook for the future would be dark indeed; for it seems to me that practices which tend, on the whole and in the long run, to produce success, to achieve the ends of endeavor, must inevitably be adopted. And if these practices, instead of being difficult, like self-denial, faith in the unseen and perseverance in the face of discouragements, were such as our lower nature is naturally prone to, like violence and deceit, their spread would be rapid and ruinous. It would be easy to show this by the example of communities where, by bad customs or laws, a premium has been put upon immorality; as was the case with some of the provisions of the old English Poor Law, and is the case with a good deal of present charity. I imagine, however, that this is not necessary. Few will question the fact; and I suppose, therefore, that most will admit, as a general proposition, that morality is stronger than immorality. What appears to be needed is a somewhat detailed analysis to show just how the principle works in actual life, and what is the meaning of the numerous exceptions to it that appear to exist.

The forces that cause success to be associated with morality, or the reverse, may profitably be considered, it seems to me, under two heads: (1) Social Conditions, dealing with the forces of custom, opinion and law that impose moral or immoral conditions upon the aspirant for success; and (2) Psychical Correlation, dealing with conditions imposed by the fact that the mind of each man is a whole, so that certain qualities and activities of the individual imply others as their necessary correlates.

I shall assume that any one who reads this essay is enough of a sociologist to understand that the moral standards which the individual applies to his own conduct are always the reflection, more or less individualized, of those of his social environment, of the group, or complex of groups, of which he forms a part; that, to be specific, a lawyer necessarily accepts, with more or less modification, the moral standards of that great social group the legal profession; and so with the physician, the mechanic, the clergyman, the schoolboy, even the criminal. Every group, in the measure of its organization, controls its members and exacts from them conformity to certain standards of conduct. If they do not conform to these standards the group inflicts failure upon them and casts them out. This control or casting out is accomplished in a great variety of ways—most of which do not imply deliberate purpose—which it would be out of place to discuss in this connection. I would refer those who wish a full exposition to the lucid articles of Professor Ross on "Social Control." [1]

In every career, therefore, in which success is pursued the aspirant finds himself conditioned by certain standards more or less peculiar to the group and different from those of other groups. The army officer cannot hope to rise unless he comes up to standards peculiar to the army: the clergyman finds that a somewhat different set of qualities conduce to success in his profession. At the same time, beside these special conditions, there are more general conditions imposed by public sentiment and by the law upon all men, or at least upon all who share in

[1] In the first three volumes of the *American Journal of Sociology*. [Published under same title as a book.—Ed.]

the normal life of the community. In other words, except in some inconceivable condition of anarchy, success is always conditioned by social forces, both general and special, some of them acting through definite command and penalty, like the law, but most of them of a less definite, though not necessarily less efficacious character, working through social feeling, ambition, the dread of disapproval and the like.

The reason why each group imposes special conditions of success upon its members is, of course, that its interests as a group require that certain standards be maintained, their precise character depending upon the activities which the group performs, so that custom and sentiment, re-enforced often by definite social machinery, very naturally take a form tending to enforce these standards. Consider, again, the legal profession: at the very outset an examination must be undergone which imposes somewhat difficult conditions upon the would-be practitioner. Having met these successfully he wishes to get clients and win cases, and finds that to do this he must cultivate assiduously certain faculties and acquirements, such as insight into legal principles, power of lucid exposition, mastery of the details of each case, the respect and confidence of other members of his profession and of possible clients. In the pursuit of these ideals others are relatively neglected. Moreover he acquires unconsciously, by constant association with lawyers, the habits of thought and opinion current in the profession, and is largely controlled by these irrespective of any personal interest of his own. Every successful man in this well-organized group gets the legal habit of mind, which includes somewhat special moral standards regarding all that relates to the profession.

And so, in general, every social group, so far as its organization is effective, recognizes and enforces such rules of morality as conduce to the attainment of the ends which, as a group, it seeks.

From this follows a corollary that is very important to sound notions of the relation of success to morality, namely, that the morality inculcated by each specialized group is, as a rule, superior in some respects and inferior in others to the more general standards current in the society as a whole. As

regards the virtues particularly important to the prosperity of the social group its standard will be higher than that of the people in general, while other sorts of morality will be correspondingly neglected.

The result of this is that the young man entering upon almost any recognized social career will find his new surroundings elevating in some respects and demoralizing in others, judged by his previous standards. If he goes into the army he will find required of him a promptness, a regularity, a submission to discipline, which is in most cases extremely good for him: on the other hand he will find little opportunity or encouragement for individual enterprise or intellectual culture, and may fall into certain vices which are less reprobated in armies than in civilian life. Of course the higher, from a moral standpoint, the activities of the group the more moral the conditions of success in it become; and *vice versa.* In a criminal organization crime is a condition of success; while on the other hand there are careers in which honesty is unquestionably the best policy. Such is the pursuit of excellence in science, art or literature, where the very basis of all durable success is a thorough-going truth or sincerity of character and endeavor. All the great critics recognize and insist upon this, pointing out that insufficient honesty, a swerving from the truth in the endeavor to produce what other people will think is the truth, characterizes all except the best work.

Again, since every person is involved in several or many social groups and seeks more than one sort of success, each man's mind is the theatre of a conflict of standards: we are continually called upon to choose between different kinds of success, or between a temporary and a durable success in any particular direction. If a writer, for instance, is to have any chance of durable success in literature he must be prepared to forego the temporary success that he might gain by appealing to transient phases of sentiment. The man of science or the moral reformer cannot complain of failure if he does not become rich, or even if he chances to be burned at the stake—provided, of course, this does not take place until he has published his discoveries or disseminated his doctrines. As a rule success in one line involves more or less failure in others, a

higher success is bought by the sacrifice of a lower, a permanent success by despising one that is temporary.

I have so far avoided saying anything about success in commerce or "business" in order that I might state the general principles that I conceive to apply to all careers before entering upon a matter which is a subject of some controversy. I believe, however, that trade offers no exception to these principles. The conditions of success in all regular business are moral in some respects if not in others. One must be systematic, assiduous and painstaking in the prosecution of his enterprises, and must cultivate the good opinion of his fellows. Accordingly the young man who goes into business finds that there is a great deal of wholesome discipline in it, that it requires certain moral qualities in a measure seldom achieved at home or at school. Among these is a certain kind, at least, of honesty. Regularity, precision and trustworthiness in money matters are, I believe, conditions of durable success in almost any legitimate business. These things are required because the interests of the group depend upon them, because trade in general could not be carried on if tradesmen could not be relied upon to keep their engagements. Of course the law is there to deal with the worst cases, and is essential; but custom and a fear of the ostracism that would follow irregularity are generally sufficient to maintain the standard.

On the other hand it has been justly said that business competition does nothing at all for certain kinds of morality, but on the contrary tends to condemn those who practice them to failure. Professor Henry C. Adams, in his luminous and widely-quoted essay on the "Relation of the State to Industrial Action," [1] shows this very clearly, and illustrates it by the example of a shirt-dealer who should attempt to pay higher wages to the girls who sew for him than other dealers do. It is clear that his attempt to practice this kind of morality might force him to quit the business or to continue it at a loss. Trade, as a social group, has not concerned itself with the question of paying living wages to employees, and there is doubt whether it is likely to do so. To solve such questions a new set of influences must be brought to bear, new relations

[1] In the *Publications of the American Economic Association,* Vol. i.

created. The law must do a part, especially in the protection of women and children, and organization among the employees, with group-bargaining—not without the strike and the boycott in the back-ground as a final resort—must do more. This, if I understand him correctly, is substantially what Professor Adams holds. His analysis makes very clear the important fact that morality cannot maintain itself unless organized, that mere good-will, even on the part of a large majority of those concerned, is ineffective unless supplemented by coercive machinery to bring up the moral stragglers.[1]

If Professor Adams had intended to assert that the action of competition is essentially and generally immoral he could not have said, as he does, that it "is neither malevolent nor beneficent, but will work malevolence or beneficence according to the conditions under which it is permitted to act." Yet some of those who follow him appear to suppose that the competitive process is in itself immoral, at least in trade, and tends generally and necessarily to make men worse. The ground of this opinion seems to be some such reasoning as the following: It is obvious that advantage is frequently to be gained by unscrupulousness. A higher price may be gotten for certain goods, we will say, by falsely asserting them to be of better materials than is really the case. Now competition being close and the margin of profit narrow at the best, those who adopt these dishonest practices will have a decisive advantage over those who refuse to do so, and will drive them out of business. So that competition is a continual bribe to immorality; or to put it in the form of an economic law, competition tends to lower the moral level of business to that of the worst men engaged in it.

The fallacy of this evidently lies in the begging of the real question at issue, in the assumption that immorality, *on the whole,* tends to success. The fact that dishonesty can be shown at times to give a particular advantage is assumed to justify the general assertion that it is more advantageous than honesty; and the rest follows at once. Honesty is the worst policy, competition is degrading, and the sooner we abolish it the

[1] See also Professor Patten's *Theory of Social Forces,* p. 136, and Professor Ross's papers on "Social Control."

better. Perhaps the best answer to this is to turn the argument around. Trade being based upon credit and upon the regular keeping of engagements by business men, it is obvious that great advantage attends a reputation for business integrity and fidelity. Competition being close and the margin of profit small, this advantage will be quite sufficient to determine success or failure, and the dishonest men must be forced out of business. Or, to put it in the form of an economic law, competition tends to raise the moral level of business to that of the best men engaged in it.

Of course neither form of the argument is worth anything. The fact is that competition simply enforces the conditions, *as a whole,* upon all the competitors. It levels down or levels up, just as may happen.

Those who adopt the pessimistic view usually limit their conclusions to business competition: but there appears to be no sound reason for this limitation. If true in business they must be true of competition generally, and we must be forced to admit that lying, pretence, unscrupulousness, are the conditions of success in every career, since there is none in which particular advantage may not be gained by them. The argument given above is just as applicable to law, medicine, teaching, the ministry, as it is to trade. And the only logical conclusion of the matter would seem to be that the world in general must be rapidly going to the bad, doomed by an inexorable tendency to sink toward the moral level of the worst men in it.

This, I trust, is a *reductio ad absurdum,* and I see no escape from it, no way of accounting for the general upward tendency which most people now admit, except by the supposition that on the whole, admitting what exceptions you please, right is more successful under actual conditions than wrong. As to trade, it is, I believe, a commonplace of the history of morals, that the idea of honesty, as we conceive it, grew with the growth of commerce and was unknown to our barbarous ancestors. Precise notions regarding *meum* and *tuum,* a feeling of the obligations to keep agreements, the whole elaborate ethics of exchange, that "business morality" and "business honor" whose reality and power no one, I think, who really

knows anything of normal commercial life will deny, reflect the necessities of an elaborate economic system and are part of the framework upon which it rests. That system everywhere assumes that the men established in legitimate business are, in general, trustworthy, and if they were not it would fall in a week, with inconceivable ruin. All rests upon personal character. The countries where the persons engaged in trade are not trustworthy, where deceit and cunning are the rule and not the exception, are just those which do not and cannot have any well-organized economic life. A main reason for the commercial backwardness of the Spanish-American peoples lies in the fact that the primitive conception of trade as a contest of cunning and deceit is too prevalent among them. National power in trade, as in war, in everything which requires organization, depends ultimately upon moral conditions. Unstable and dishonest individuals are like crumbling bricks, out of which no substantial structure can be built.

What I have said so far relates to conditions of success directly imposed upon men by the social organization of which they are a part: the conditions imposed by what I have called psychological correlation come also from the social system, but more indirectly; quality A is developed in men because it is necessary to success, and quality B appears, by correlation, because the nature of the mind is such that it necessarily goes with A.

This matter evidently belongs upon the other side of the psychological border, and I shall offer only a few remarks upon it, aiming rather to point out its importance to such discussions as the present than to formulate any definite principles regarding it.

I believe it to be true that ability of the sort implied when we speak of "a man of calibre," the ability necessary to distinguished success of the kind that most men seek and prize, is more often than not associated with a substantial integrity, and a refinement of sensibility rather above than below the average. This opinion I would base partly upon *a priori* considerations and partly upon observation. Success of any large kind certainly requires, first, a good mind, an effective machine for arranging and comparing the elements of life, and second,

ample and correct materials or premises for this mind to work with. This second requirement involves at least a fair measure of sympathy or social sensibility, because the most important material that men have to work with is mankind—the minds of other men—and nothing but sympathy will give him access to this. Certainly the sympathy will not be of the most conspicuous and demonstrative kind, uncontrolled by thought, nor would it be well if it were, for unregulated sympathy is quite as unsocial a quality as cold intellectualism. Indeed the union of the two qualities I have mentioned is precisely the psychological condition, as I understand the matter, of a sense of justice; and I am fortified in this view by a careful and very profitable study of Professor Baldwin's admirable work upon the *Social and Ethical Interpretations of Mental Development,* in which this and many related questions are most originally and suggestively treated.

Of course I do not for a moment assert that the successful man is necessarily moral or just; only that there is an intrinsic psychological connection between success and morality, a community of origin, that makes them more likely to be associated than not to be. I may perhaps say that they are like two children of the same parents; no one can predict in any particular case how much or how little they may resemble each other; but he can assert that as a general rule there will be a great deal in common between them. For a more precise analysis of the matter we must await the further development of social psychology.

It may be objected that a man is not a moral unit, but seems rather to have as many moral selves as he has activities, and applies different standards in each. This is true in part only. Custom and the exigencies of different situations do lead men to vary their standards, but there is always an inner protest against this, in so far as the man is conscious of it, and the clearer and abler his mind the more distinct and disturbing the protest. A good mind strongly tends to bring all the activities of the individual to the same moral level; perhaps I may say up to the level of the highest of them.

It is clear, I think, that in speculating upon the policy of honesty we should ask, not what will be the immediate result

of this or that act, but what habits of thought and action must a man form, what sort of a man must he be, to stand in the long run the best chance of success. To this I think there should be but one answer, namely, that the man who endeavors to be honest, according to the standards inculcated in the society of which he is a part, is more likely to attain worldly success, other things equal, than one who does not. It is not so much a matter of causation as of correlation: success and honesty have normally a common root in a sound mind.

The advantages of dishonesty are usually near and obvious; the disadvantages, though overwhelmingly demonstrated by general experience, are commonly remote and hard to conceive vividly: it takes some faith to believe in them. As Adam Bede says: "It takes something else besides cuteness to make folks see what'll be their interest in the long run. It takes some conscience and belief in right and wrong. I see that pretty clear."

As to the question whether the facts of observation support the view that successful men are not as a rule below the average in a disposition to be just, in sympathy, integrity and other moral qualities, the reader will doubtless form his opinion from his experience. I willingly admit that a long list might easily be prepared of successful characters who were, or were reputed to be, men of the worst character, judged by the ordinary notions of morality. Regarding such a list and the conclusions to be drawn from it there would be much to say; and the matter would prove too large for adequate discussion in the present connection. A great deal might be ascribed to the moral isolation in which men of great aims almost necessarily live and which, putting a peculiar strain upon character, is likely to transform a commonplace weakness or hardness into something quite monstrous. The view which I would suggest, without attempting to demonstrate its correctness, is that, on the whole, the association of notable success with a bad disposition is decidedly the exception and not the rule. I find successful men to present infinite variety, but to be very distinctly human and social, decidedly above rather than below the average; and I think that this statement will hold in business as well as elsewhere. Those who arrive at a contrary con-

clusion appear to compare successful persons rather with their ideal of what mankind in general ought to be than with what it is.

It is hard to take seriously the view apparently held by some writers of the Italian school, namely, that there is a class of men of vast intellect in whom the moral nature is totally absent, monstrous creatures whom the anthropologist classes with "born criminals," but who by virtue of their prodigious mental faculty not only keep out of prison but accumulate wealth and power and, aided by their entire freedom from moral scruples, occupy many of the high places in our social system. This seems to me improbable on psychological ground, and I have not in fact met any notably successful man who seemed to belong to this category; though partisan writers, political and economic, sometimes describe distinguished persons as having the traits mentioned. The late Jay Gould was painted in very dark colors during his lifetime, and was perhaps the most conspicuous example of the sort of successful financiers that are looked upon as bad men. But whatever may have been the moral tendency of his financial operations, he appears, from all accounts, to have been as regards personal traits, a quiet, industrious, affectionate and upright man. The worst we can say of such persons as a class is that they do not rise above their environments, they find the game going on and play it according to the accepted rules. Their success may be of a bad sort, but it appears to be due to qualities which we must, upon the whole, regard as good or progressive, to intellect, energy, insight into human nature, and the like. In all such cases we must discriminate, in theory at least, between badness as an individual trait, an intrinsic something that makes one person do worse than others would with the same opportunities and under the same influences, and the harmfulness of the activities or tendencies in which a perfectly normal individual may be involved. The individual degeneracy that makes a man lower, morally, than his fellows is one thing, and the social degeneracy of nations, historical periods and particular trades, professions or other social groups, is another, though it is often difficult to distinguish between them.

General Grant might be taken as an illustration of what I

mean by correlation. He was a great soldier because he had a large, keen, sound intelligence, because he understood men, because he was aggressive, steadfast, self-possessed, a man of character. He was a gentle, courteous, upright man—a good man, surely, as the world goes—not because these qualities are of the first importance upon the battlefield but because they went with the other qualities mentioned which are of the first importance. Generally speaking the great warriors, among whom if anywhere one would look for the anti-social type, appear to have been extremely human. Alexander, Cæsar, Charlemagne, Henry of Navarre, Wallenstein, Cromwell, Marlborough, Frederick, Nelson, Wellington, Grant, Moltke and their like were men of all-around, human ability, not at all monstrous, and the majority of them possessed a natural refinement and sensitiveness far beyond the common. Napoleon is perhaps the only great captain who might be regarded as a moral defective; and it would hardly seem that his brutal and cunning traits were such as to deserve this description. As Mr. Stevenson says, he was not a gentleman; but he could hardly have been loved as he was by his soldiers if he had not been within the pale of normal humanity. Yet I do not deny that men can be named who apparently united considerable military talent with almost insane ferocity. Eccelino was such a man.

Surely no thinking man can doubt that, in general, badness is weakness, and that where it succeeds it usually does so through being associated with something better.

It may be said that this is all very well, but that there is no getting around the fact that in a very large class of cases the bad men succeed and the good do not. This is true; and it will be observed that I have claimed no more than that "honesty is the best policy" is the rule and the contrary the exception. The cases in which dishonesty is, really or apparently, successful, come chiefly, I think, under three heads: first, those in which the success of unscrupulous men is due not to their unscrupulousness, but to uncommon ability associated with it; second, those where the success is partial or temporary, and, third, those in which, owing to a demoralization of the social

conditions under which competition takes place, the dishonest or, more generally, the immoral, really prevail over the honest or moral.

Each of these classes will find ample illustration within the experience of almost every one. Here, to begin with the first, is a local money lender and real estate agent with a reputation for unscrupulousness, a hard man, living meanly, who is supposed to have accumulated a good deal of money. "This," says the pessimist, "is the sort of man that succeeds under a competitive régime." Upon closer scrutiny, however, it appears that this man is an indefatigable worker, clear-headed within the narrow range of his thought, and patient, and that such prosperity as he enjoys may easily be ascribed to these qualities, and to his economy. On the other hand it would seem that his personal traits and reputation must be a great disadvantage to him. He is generally disliked; people will not do business with him if they can easily avoid it, and take extraordinary precautions when they do; it may well be believed that he would be better off, pecuniarily as well as otherwise, if he were morally and socially such as to be liked and respected in the community.

And so on a greater scale. Admitting that Napoleon, for instance, often profited by his unscrupulousness, might he not have been, on the whole, a greater man, even in his own way, if he added to his transcendent energy, intellectual power and personal ascendency, something of the magnanimity of Cæsar, Charlemagne or Alexander? His aim was glory; but did he not, after all, partly fail to achieve it, just because there was an ignoble streak in him? The world glorifies power, but it does not glorify deceit, sensuality and meanness; so that there is, perhaps, an admixture of contempt in the way it thinks of Napoleon.

I need not say much of the second class of exceptions, that in which the success achieved is partial or temporary. Here would come most of the successful speculators, of various sorts, who now and then draw public attention by enormous gains but who seldom enjoy lasting prosperity. Their life is akin to that of the gambler and subject to similar vicissitudes. This also would cover the many cases in which a par-

ticular advantage reaped from a single unscrupulous transaction is made the basis of a pessimistic conclusion regarding the results of honesty. A man will say "Honesty is not the best policy in my profession: X made false representations and secured the contract: I told the truth and lost it. It is scarcely possible for a man of principle to succeed." This last statement may be true in some instances; but not, I imagine, as a rule. The argument, as I have tried to show, is fallacious and usually is no more than the expression of a natural chagrin at having suffered a palpable loss for the sake of an impalpable benefit. After all the upright men seem to hold their own in business, and many who are very successful are admitted even by their competitors to be men of strict integrity. There is little success without strength, force of character, and this usually goes with truth and self-respect.

Cases of the third class are by far the most important, because they constitute real and not apparent exceptions. We must admit that honesty is not always the best policy—in the ordinary sense of that word—and that, speaking generally, it does not "pay" to adopt standards above what the group or community of which one is a part can understand and appreciate. I do not say above what is generally practiced, because the moral standards of men are commonly above their practice, and they often reward with their admiration and support conduct which is much better than their own; but one who goes beyond this enters the region of heresy, where he must expect misunderstanding, opposition and failure to achieve the ordinary objects of ambition. He must forgo policy and fix his mind upon a different kind of success from that which other men pursue, and look for companionship and appreciation to some select group of the wise and good.

As we saw above, the moral level of competition is simply that of the conditions under which it takes place. Its functions are executive, not originative, it determines who and what is fit, in the plainest sense of the words; it tries the available pegs in the available holes and uses the ones that go in best. It is thus an expression of the existing social order at the same time that it is the process of readjustment, equilibra-

tion, change; at once an outcome of actual conditions and a cause of change in those conditions.

It therefore happens that when competition is suddenly intensified it is likely to be more or less debased, the intensification and debasement both coming from the disintegration of social structure. An obvious case is that of new communities in the West, where, before the forces of law and order became organized, competition reverted to a brutal type, and no one was fit who did not cultivate skill and promptness in the use of his revolver. Another was offered by the Commune of Paris, when, at the end of a series of rapid and destructive changes, culminating in the surrender of the starved and harassed city to the Germans, the untrained and irresponsible "proletariat" secured control of it, a number of bloody and cunning miscreants stepped into leadership, and the respectable element of the population was robbed, murdered or terrorized. Raoul Rigault became the fittest and Archbishop Darboy one of the unfit. The same principle is in some measure applicable to new industries, rapidly-growing cities, and novel conditions generally. The corruption of our city politics and the fact that the fittest to succeed in them appear often to be the worst, is ascribable to causes most of which, perhaps, may be brought within this general rule: that is, to the presence of a vast unassimilated foreign element whose vote, not being intelligent, is peculiarly subject to manipulation; to the fact that street-railways and other great urban industries, their rights and duties not being properly determined by law, resort to systematic bribery of public officials; and most of all, to the fact that the general stress and hurry withdraw the energies of the ablest men from all but immediate concerns. So with the demoralization, in many forms, accompanying the rapid expansion of railways. Where rates are unequal and the lowest is to be obtained only by bribery or intrigue, the policy of honesty becomes very questionable, and men of average morality will presently lower their standard of conduct far enough to admit of intrigue with a freight agent. It would be superfluous to give many examples: any one who reflects upon the matter will find them without number.

And, further, as hinted above, the highest honesty, that which is ruled by standards beyond the comprehension and sympathy of the time and place, is not and never has been or can be good policy, in the sense of conducing to ordinary success. The very essence and merit of it, as of all higher morality, consists in its being ahead of the time, heretical, and so unappreciated and unrewarded. It appeals from the present to the future, to conscience, to an ideal being. In so far as it is justified by the world in the end it sets a new standard, creates a new kind of success. Ordinary success is only going a little farther than others on the road that everybody is following, having therefore little permanent result; but the success of moral leaders of mankind is success at a longer range, involving the sacrifice of the immediate and lower aims, even to the individual life itself. As Lowell says:

"Count me o'er earth's chosen heroes; they were souls that stood alone
While the men they agonized for hurled the contumelious stone." [1]

Yet to this I would still add, lest the danger of goodness be overestimated, that for one who impairs his worldly career by transcending the ordinary canons of morality there are at least nine hundred and ninety-nine who injure themselves by falling short of them. And moreover the man who feels the higher aspiration can never be happy in the lower success: so that we may say, if we will, that for him also honesty is the best policy.

VI. COMPETITION AND SYMPATHY

A very powerful source of the sentiment against competition and of the belief which many cherish that it cannot be a permanent feature of social life, lies in its connection with personal ill-feeling. It is often said to be in its very nature anti-social, a state of war instead of a state of peace, generating hostile passions instead of sympathy and love. The bloody conflicts of our brute ancestors have been replaced by something less obvious and open but—so we are told—equally bitter and destructive, morally-speaking the same thing, "a disguised

[1] The Present Crisis.

and indirect *anthropophagia,*" as an Italian writer puts it.[1]

Yet there is no inevitable association between competition and hostility. In great measure the selective process operates without any conscious clash of personal aims, and therefore without generating personal feeling. A young man, for example, starts out in life with the purpose of following a certain profession—let us say the law. The experience of two or three years convinces him and others that he cannot succeed in this, and he makes his way into something else. About half the graduates of our law schools are eliminated in this way, and the same sort of thing takes place in other trades and professions. But the process is gradual and the eliminating forces, as a whole, impersonal; that is to say they are too many, too intangible, to make an impression of wilful personal opposition. Disappointment may ensue but not hatred, except in the case of weak and abnormally sensitive minds whose uncontrolled emotions lead them to ascribe every painful experience to the malignant purpose of others. So with commercial competition: a man's trade gradually increases or declines; but there is seldom any one person who can be fixed upon as the cause. In fact, while admitting the existence of a great deal of competitive bitterness, I believe that most men look upon the social conditions under which they work very much as the farmer looks upon the weather and other natural agents. They may make or mar him, and he thrives or suffers accordingly, but there is no single person to hold responsible.

Moreover, open and declared opposition is not the thing most likely to give rise to hatred and jealousy. Where a conflict takes place under recognized rules and conditions which are observed by both parties, it does not necessarily give rise to bitter feeling, no matter how dangerous and destructive it may be. The feeling entertained toward each other by fair-minded and vigorous opponents was well and magnanimously expressed, it seems to me, in the remarkable address of the Spanish soldiers after the fall of Santiago:

"We fought you with ardor, with all our strength, endeavoring to gain the victory, but without the slightest rancor

[1] Ferri, in the *Atlantic Monthly,* August, 1897.

or hate toward the American nation. We have been vanquished by you (so our generals and chiefs judged in signing the capitulation) but our surrender and the bloody battle preceding it have left in our souls no place for resentment against the men who fought us nobly and valiantly. *You fought in compliance with the same call of duty as we,* for we all represent the power of our respective states."

The clause italicised contains the essence of the matter. So long as I see in my opponent a man like myself, acting from motives which I recognize as worthy, and acknowledging a like worthiness in me, I cannot feel anger toward him, no matter what he may do to me.

The conditions of the open market, like the conditions of the field of battle, are conceived of as part of the necessary course of things and do not, in fairly reasonable men, generate personal hostility. Bitterness arises when there is, or is believed to be, something unfair, something exceptional, some infraction of the rules resulting in unjust discrimination. In fact, so far as my observation goes, it is among those removed from open and equal competition that hatred and jealousy are most rife. For instance, among the clerical force in public offices or large private businesses, where promotion depends upon the decision of one or a few men, a bad state of feeling is likely to prevail, especially if there is the slightest appearance of favoritism. A trifling slight will engender more animosity than would the most serious injury under freer conditions. The very extreme of self-consuming bitterness comes when one's fate is in the hands of another who is thought of as maliciously or contemptuously unjust. Then, indeed, come the nights of sleepless resentment, of passionate, futile hate. A healthy, self-reliant tone, a disposition on the part of the mass of men to attribute their fortunes, good or bad, to something in themselves, is more general, I believe, in this country than in Europe, and may be ascribed largely to the comparatively free and open conditions that prevail here.

It may be maintained that competition, when not unjust or destructive, promotes a broader social feeling. The free and open play of energy and purpose is calculated to arouse precisely that knowledge of others, and of the limitations which

their life imposes upon ours, out of which a wholesome sympathy and a sense of justice must spring. Competition involves contact and usually necessitates some degree of mutual comprehension. To succeed one must understand opposing forces, and understanding is the beginning of sympathy. Your competitor is one upon whom you must count, a factor in your life; unconsciously your imagination occupies itself with him, trying to make out his purposes and methods, interpreting his thoughts from his words and actions. If he turns out to be a person of your own sort, with desires, attachments, standards, powers, that you can appreciate, you will respect and perhaps admire him, no matter how much he may hinder you. Thus you will see life from a new point of view, and be correspondingly enlarged and delivered from your smaller self. There is no selfishness, no narrowness of social feeling, worse than that which flows from an ignorance of others fostered by a too secluded existence. What reasonable man does not rejoice in that necessity of struggle which, in our "fierce democracy," permits no class to live apart in sensuous idleness without incurring the danger of being supplanted, which forces upon almost all of us, sooner or later, a working knowledge of mankind? The great majority of our people are somewhat sluggish in imagination and sympathy, needing the spur of opposition, and prone to apathy and self-indulgence when it is withdrawn. One who notices how often men of promise fall into triviality and sensuality in the lack of definite aims, and how prompt a cure is often wrought by some external necessity, may well question whether general competition is not the most efficient antidote yet devised to these forms of social degeneration.

It is true that when a young man whose early years have been fortunate passes from the family circle into the larger world, and comes to know the feelings and practices that prevail in the latter, he feels a measure of degradation in the change, and bitter feelings are often aroused, which usually pass away in time but sometimes do not. It has always been the case that a good family is a social group of higher type than society at large, a place where love, justice, truth and refinement are inculcated. It is necessarily higher, not only

because of the mixture of all sorts of people in the world, but because the large, complex and shifting groups that carry on commercial and political life cannot so readily be made social, in the higher sense, as a small, stable and presumably congenial group like the family. The difficulty of organization increases with size, complexity, heterogeneity, so that these large groups are necessarily held together more by such forces as law and economic necessity and less by personal feeling. The good family is a small Utopia, and from it comes the social ideal of fraternity or brotherly love as the right relation among men. The change, then, is a painful one, so much so to a person of naturally acute sensibility, who has spent his childhood and youth in circumstances favorable to a refined and elevated habit of thought and feeling, that the world is likely to seem a very bad place indeed. Yet it is in most cases a wholesome change; what he loses in tenderness and refinement he gains, if he undergoes the trial well, in breadth and strength. His view is enlarged, and he outgrows that selfishness from ignorance to which every one who leads a protected life is necessarily subject. There is very often to be observed in those who are removed from the more active struggles of the world, most commonly perhaps in women, a type of social feeling which is quick and strong in certain directions, but narrow, confined to persons and situations which a contracted experience has enabled them to understand, and having all the effect of coldness and selfishness as regards what lies beyond. On the other hand, while the man who is in the world becomes more or less of the world, with the fine edge of delicacy a good deal blunted, he usually gains something of the broader view and of the robust sense of justice that goes with it. Extreme refinement has its very great value—to the poet, for example, to the artist, the scholar, the moral teacher, and through them to the world: it is a kind of leadership—but to swim in the wider current is essential to the doing of most of the world's work.

How much have our great American democrats, men of the type of Lincoln, owed to the fact that they have had to work their way up through *stratum* after *stratum* of a various and everywhere competitive society. What a knowledge of men

and mastery of life it gives them. They stand "foursquare to all the winds that blow," dealing with the vast and mysterious forces of the popular mind with the same confidence as the chemist handling his occult substances. There is something magnificent in this, a development of personality larger, in some ways, than is possible within any narrower social polity. And the mention of Lincoln is enough to dispose of the notion that such an experience is necessarily unfavorable to the growth of sympathy and kindliness. Every step of his advancement was won in a competitive struggle; and he was, within just limits, a seeker of his own advantage, frankly purposing to overcome his opponents in politics and elsewhere; yet his kindliness and truth were so great that they are the first things that come to mind in thinking of him.

In short, it is only by trying to impose our ideas and purposes upon the world, that is by competing, that we come to know the world and our own relations to it. Our thoughts might be higher and finer, in some respects, if we withdrew from the turmoil of life and pursued some ideal of cloistered goodness like that inculcated in the *Imitatio Christi;* but if we reject such ideals and determine to share the life of humanity at any cost, we become competitors.

As regards the feeling under the influence of which competition is carried on, its moral character is not to be determined merely by enquiring whether it is friendly or hostile. Hostility in the presence of evil is more moral than amity. Philanthropists not infrequently evince a righteous and justifiable anger against persons and institutions that they believe to be injurious to human welfare; and all energetic people are subject to hostile feeling regarding what seems to them wilfully wrong. The essential question is that of the aims and tendency of the man, to which his feeling is subsidiary. If his purposes are just, so far as he can see what is just, and if he reserves his anger for that which he finds to be unjust and wrong, then his hostile feeling is right and wholesome, at least from his standpoint; it fulfils the function of social anger in spurring on the conflict against wrong. Of course most of us are subject to angry passions that we know are wrong, and are liable to gross error as to others which we suppose to be

justifiable; these are evils which we ought to remedy as far as we can; but not by withdrawing from contention and abandoning those objects we hold to be worthy. There is great need for combativeness and I look upon it, when dominated by a sense of justice, as a social rather than an anti-social quality.

Any motive whatever may be a motive to competition, from the basest fear or rage up to the noblest love, emulation or sense of duty. There is no special class of feelings or desires that is peculiarly competitive. All alike strive for success as they conceive it. To be a man is to compete. *Vivere militare est.*

I can see only one class of cases where competition, merely as competition and without reference to its particular objects or standards, can justly be held responsible for the genesis of bad feeling. We have seen that the restless activity of our social life, exceeding that of other peoples, the breaking up of established relations, the partial disorganization of moral control and support of every kind, the general racking and jerking, so to speak, that go with social change, put undue strain upon many characters, so that they go down under it. The man loses, or fails to acquire, that mastery of the moral situation, that power to control the passions and subordinate them to rational endeavor, which constitutes strength of character. Among those who suffer this fate are many of more than average refinement and sensibility. Those whose skins are *very* thin do not well endure the excitement and rough handling which befall many in a time like the present. Such find experiences distracting and exhausting which supply only a wholesome stimulus to others.[1] There is quite a large class of persons who are too sensitive, too fine-strung, to become indifferent to vicissitude and social friction, and at the same time without the intellectual or moral vigor to overcome or subordinate the resulting passions. Such find no refuge from

[1] I hold that the social sensibility of successful men, as a class, is much above the average: nevertheless, sensibility not duly controlled is a common source of demoralization and failure. The spread of sail which a vessel carries must bear a proper relation to the force of the wind and the weight of ballast in the hold. The wind is comparable to the social suggestions that impinge upon us, the sails that catch it to sensibility, and the ballast to the regulating and inhibiting functions of the mind.

the excessive and conflicting emotions that rack their minds; they fail to achieve any abiding relation to a world which seems to them a fearful chaos of unrest and pain. As is always the case when moral control is broken down, the lower passions take possession and hurry on the process of degeneration. Among these passions comes an unreasoning and self-destructive animosity toward persons and a pessimistic bitterness as regards the world in general, which prey upon the decaying character very much as intemperance and other vices do. This form of suffering is terrible indeed, and the sufferers being often men of intelligence and power of expression their plaints are sometimes heard in literature.

The more effective utterance, however, the bitter protest which is a very distinct and penetrating note in the literature of the day, comes from a class of refined and sensitive men, of strongly emotional type, who have been near enough to this experience to understand it, to taste its bitterness, without actually going under. I mean, to take names well-known, such writers as Tolstoi, Ibsen, Ruskin, Hardy and Howells, who seem to me to come within the class indicated. It is also plentifully represented among writers upon political economy and socialism. I would not be understood as deprecating this protest: on the contrary there is good ground for it, and when containing something beyond mere accusation, something hopeful and reconstructive, it is beneficent and a spur to progress. It would be too much to expect such writers to weigh the existing order in a perfectly just balance. They are likely to overlook the favorable side, and especially the important fact that the very stir and flux that proves too much for some, brings awakening, opportunity, wholesome endeavor, to a class infinitely more numerous, the somewhat sluggish multitude, previously sunk in routine, torpor and sensuality.

VII. RESTLESSNESS, INSECURITY AND STRAIN

Fifty years ago [1] Bayard Taylor, landing in New York after his first visit to Europe, exclaimed: "What activity! what a

[1] Actually it was more than 50 years. Bayard Taylor returned from his first European trip in 1846. [Ed.]

restless eagerness, and even keenness of expression on every countenance! I could not have believed that the general cast of the American face was so sharp." The same thought comes to the returning traveler to-day. One who has lived long enough in some unprogressing foreign city to become at all settled cannot fail to notice there, among much that is uncongenial to his habits of thought, a certain smoothness and repose in life that is grateful to the soul. Every one has his place and, expecting nothing but to remain in it, does not worry himself and others by aggressive self-assertion. In dealing with a servant there is no disquieting clash of democratic theory with undemocratic fact. He does not look upon himself as your equal, and you very readily fall into his way of thinking. The traveler, as a person of leisure and presumptive wealth, finds himself the member of an upper class, an unquestioned aristocrat. For him the rough corners of life seem all filed off. Things are rotten at the core, possibly, but on the surface all is finished, stable and secure; he feels a sense of irresponsibility for the general course of affairs and a disposition to enjoy life and to cultivate the æsthetic feelings. Nor is this state of mind confined to the upper class; the general lack of personal ambition brings with it a sort of freedom, a moral disengagement of which all partake in some measure. To return from this to strenuous America is in part a painful experience; intensely so to sensitive minds of strong aesthetic instincts, minds naturally alien to the conditions that prevail here. The mental attitude that goes with our intense and somewhat chaotic competition is unquiet, expectant of change, agitated by fear and hope as to the near future, and so at variance with that repose and impersonal breadth of thought which promotes the appreciation of beauty and the finer, larger, more detached activities of the mind.[1]

Opportunity seems to bring discontent. Men soon reconcile themselves to any lot that they believe to be inevitable: far from protesting and resisting the more, the more they suffer, they become apathetic when hope dies out and pres-

[1] The psychology of American life, in its relation to art, is discussed in a penetrating manner by Paul Bourget. See *Outre Mer,* Eng. Trans., p. 323.

ently lose all power of resistance, all conception of a different state of things. But freedom, democracy, competition, animate every one with the sight of bright possibilities, and thousands seek what only a few can gain. Social classes no longer appear inevitable; and the less the distinctions become the more odious they appear. The growth of prosperity, freedom, opportunity, seems to bring increase of dissatisfaction: the more is achieved the more is wanted, social agitations increase instead of diminishing, and there is no end in sight.

Then, too, there is the insecurity that is inseparable from intense competition. There seems to be no way to give opportunity to the fit but by permitting them to supplant the unfit; and who can be perfectly sure that he does not belong among the latter? While it seems only reasonable that the young should be insecure in the functions they are attempting to perform—because they may be regarded as undergoing a process of probation—it would appear that, once established, the increasing efficiency resulting from experience should make their maturity practically secure, and enable them to finish their course in tranquillity. The earlier period of life is naturally restless and adaptable, suited to undergo without injury and often with enjoyment the vicissitudes of apprenticeship to life. But later comes a longer period that is more rigid, fit to grow and expand in a given direction but not to take a new one, executive but not formative. That industrious and efficient men in middle life should find themselves undermined by social and industrial changes they could not have foreseen, and be cast loose to begin an untimely and unsuccessful competition with younger men for new careers, is a great and frequent evil incident to a time like this, and one for which there is no adequate remedy. And an evil still greater, perhaps, is the feeling of insecurity, the apprehensions that are never realized, the moral wear and tear upon the finer and more imaginative minds, destroying repose, wasting strength, and often leading to pessimism and mental disease.

Thus the time is plausibly charged with strain, painful to all, so it is said, breaking down many and multiplying the numbers of those who come to drink, crime, suicide, insanity and every other form of degeneracy. A very large class of persons,

including many of the wisest and finest minds of the day, dislike and denounce the time, and pray that it may soon be over. They recognize, if they are clear-headed, that there is much good in it, that great things are doing and greater ones, probably, in preparation; but they say that it is a time of transition, of disorganization, of distraction, hostile to poetry, the fine arts and all the higher manifestations of genius, an unhappy time, in which men are paying the cost of a future they will never see.

This matter seems to be very much like that of social feeling, already discussed. The first condition of a just conception of it is to make a division among men and to recognize that one part is quite differently affected from the other. Present conditions, like all others, are very well for those who are adapted to them, but bear severely upon those who are not. The distinction most important to make is that between the sensitive, the irritable in the broader sense of the word, and the more phlegmatic; the former being comparatively few in number, but including a large proportion of the men who have marked ability of the finer sort. This sensitiveness, though increased by intellectual pursuits and refined living, is by no means confined to the well-to-do class, the greater number of those possessing it being scattered inconspicuously among the mass of the people. The more phlegmatic sort are an overwhelming majority in all classes.

Now the most general trait of the present time, as regards its action upon individuals, is perhaps the unprecedented intensity and diffusion of social incitement. On every side are suggestions of thought and action, awakening ambition, sympathy, curiosity, envy, apprehension and multiform desire. Life assails us on every quarter and demands an active response. These stimulations are felt with an intensity proportional to the sensitiveness, natural and acquired, of the individual mind. Upon the phlegmatic class the effect, speaking generally, is admirable. The once brutish multitude is penetrated to a considerable depth with thought and aspiration, which dispel apathy and compete with sensuality. In comparison with lethargy there is scarcely any form of ambition, however narrow, hostile and apparently selfish, that is not noble

and elevating; since ambition, in its very nature, is social, in that it looks to others for its reward, and involves the subordination of the animal nature to imaginative aims. For this class the sort of discontent that ensues is no evil, but an awakening of the imagination, a stimulus to wholesome and humanizing activity. That few gain what they desire is nothing in comparison with the fact that life is spent in hopeful endeavor. "The soul can be appeased not by a deed, but by a tendency." Instead of this social stir and incitement being generally excessive, it is still far from accomplishing its full work, and the mental state of the people of the United States can be called active only when we contrast it with the past, or with that of other countries. The greater number still live in a narrow, sleepy way, without definite ambition, without real contact with the intellectual movements of the time, wanting awakening rather than soothing. One need only go into any country neighborhood and exercise his imagination upon the mental state of the persons he sees to feel how grossly exaggerated is much of what is written about the unrest of the American people.

They are certainly of a protestant turn of mind, more ready than any other, perhaps, to demand a betterment of their condition. But does this indicate that they are more unhappy? Not at all. Social agitation may be said to be one of their pleasures, a part of the wholesome activity to which I have referred, an outlet to energies which would be painful if kept in. Our contentment is kinetic, not static. It must surely be a person of perverted sympathies who can imagine that Americans are generally unhappy. A fundamental cheerfulness and optimism appear to observant foreigners to be among their most characteristic traits; and this, I think, is due to the pleasures of action and of hope that are so widely distributed. The very persons whose printed utterances would seem to indicate the most desperate state of mind, will often be found, upon personal contact, to be decidedly cheerful, partaking of the joy of life. Freedom takes the bitterness from revolutionary agitation by permitting to the agitators that self-expression, in speech and endeavor, which is their most urgent need.

This, in my opinion, is the case with the great mass of people;

they are on the whole happier and better, more alive and human, for the intensity of competition. But, as I have intimated, it often proves over-stimulating for the finer and more irritable temperaments. These do not need the spur, and are only agitated and put out by it. They say with Thomas à Kempis *"Taedet valde sic cotidie vivere in lite,"* and "make their only prayer for peace." They wish to love, and find themselves harassed by bitter feelings; they long to enjoy or to create beauty, and find no repose for the one or encouragement for the other. Assuming that what is true for them is true for all, they are likely to adopt extravagant social opinions and write pessimistic literature. What they really need is not less competition, but one that is more discriminating, and broader as regards the careers to which it opens the way. An adequate system of education, as Professor Lester Ward insists, would detect the finer aptitudes in childhood, lead their possessors aside from the ruder struggle for which they are unfit, and provide for their development in a congenial environment. This alone will give to such minds true freedom, a fair chance, just competition. It involves a more symmetrical social organization, providing better for the aesthetic and intellectual needs of human nature, and a competitive process suitable to select and educate the persons fitted to minister to these needs.

VIII. INDIVIDUALITY, SELF-RELIANCE, EARNESTNESS

In closing this discussion of the effect of competition upon human character and happiness it is only right to state explicitly the fact—which has been implied all along, and is perhaps too obvious to call for much exposition—that, whatever its evils, it promotes individuality, self-reliance and earnestness.

In so far as a man can and does live upon traditional ideas and feelings, without the necessity of exercising choice or of testing his principles by use, he fails to achieve individual character and self-reliant manhood. It is by permitting this, and so relaxing the tissue of personal character, that the most elaborate social systems of the past have decayed. The man who has made his way in a competitive order has learned to

resist suggestions, to select and develop one class of influences and reject others, thus achieving self-knowledge and an effective will. At the same time, as we have seen, he is forced to study other men and to develop a robust type of sympathy. The plainest workman, thrown upon his own resources, becomes something of a diplomatist, a student of character, an experimental observer of social forces. It is the tendency of a competitive society of the better sort to make every man a man of the world. He undergoes at once individualization and socialization, these two proceeding hand in hand, in a wholesome social life, each enriching the other.[1]

Again, it is not the least of the merits of competition that it makes life earnest by giving to men a definite, difficult and urgent problem to solve. The present age is alleged to be material, and so vulgar, with too much to eat and drink and wear and no faith or aspiration. But is it not surprising, on the whole, that this facility of production, this economic abundance, has produced so little frivolity, sensuality and gross self-indulgence? The people of the richest and freest nation in the world are said to be too earnest, too striving; they are exhorted to relax a little, to permit themselves reasonable recreation. How can we account for this idealism, for it is certainly a kind of idealism, in view of the apparent fact that the spiritual forces have seldom been so ill-organized as now, and the material forces never so well? How is it that the Saxon of to-day, with infinitely greater command over food and drink, is less of a sensualist than his ancestor was? Is it not partly that while the material inheritance is great, a share in it can only be obtained, as a rule, by a success more dependent upon moral and intellectual power than success ever was in the past, by the habitual exercise of self-control, foresight, patience, by the acquirement of character? The present *régime* usually gives a man material goods only upon condition that he be-

[1] This is well illustrated, it seems to me, by the contrast between German and American students of the same age. German life, though perhaps more competitive, more encouraging to personal initiative and self-reliance, than that of any other country of continental Europe, is much less so than life in the United States. And the German student is more childlike, simple, impulsive, appears less practiced in self-reliance and self-control, than the American student.

comes something of an idealist, allows him plenty only when he is proved capable of abstinence; and he often learns his lesson so well that he comes to care even less than is right for the pleasures of sense, and to turn from them when they are within his reach.

IX. THE STANDARD OF SUCCESS

Success, as I use the word, is whatever men think it is; that is to say it is nothing other than the achievement, or the hopeful pursuit, of the object of endeavor. Now the object of endeavor which each person sets before himself is, like all the products of our minds, at once individual and social in its origin. It represents the ideas concerning success offered by the social environment organized according to the structure of the individual mind. What I think worth doing must always be a function, more or less involved, of what other people think, or have thought, worth doing. It is therefore no denial of individuality to say that the object of endeavor reflects the sentiment of the social group, and that there is for every group, for every nation and every age, a standard of success more or less peculiar and characteristic. So far as life is determined by the animal necessities, to exist and propagate is success; but beyond this point, when this primary object is secured and a surplus of energy remains, success begins to take on a social or moral character and the object striven for becomes more and more the production of some effect upon the minds of others, the achievement of respect, honor, power, love, or beneficence. These are clearly the chief objects of endeavor in existing society, under normal conditions. The literal "struggle for existence" comes into painful prominence at times, but on the whole it plays only a small part. What this expression really means in most cases is the struggle to maintain what is called a standard of living; and this is altogether a social or psychological phenomenon. Our standard of living is fixed by what others think, by what those whose respect we wish to retain regard as decent and necessary. It is one thing while a man is at home, and quite a different thing when he is upon a hunting trip. It is determined by his habit of thought and his social environment. The more

aggressive forms of ambition, which engage those who are not content with merely maintaining a standard of living, have also this social and imaginative character. The objects sought are power, reputation, beneficence; always the production of some desired effect upon the minds of other persons.

Wealth as an object of ambition and a measure of success, owes its ascendency to its social implications, and the pursuit of it is by no means a proof of materialism or sensuality. Wealth is merely a symbol for the power into which it is convertible, and for the sake of which it is desired. The fact that a man desires it, throws little or no light upon the real object of his ambition. He may want it to pamper his stomach, to build a fine house, to further his political ambition, or to carry on a social settlement. Of these, however they may differ in ethical value, the first alone is a material or sensual aim. The rest are social and look to the minds of others for their success. As regards mere sensualism, it would seem that it does not play and never has played any very important part as an object of ambition. It does not appeal to that social imagination which is the basis of all ambition. Men may become sensualists after they achieve wealth—though that is usually left for the heirs—but sensual pleasure was not the object for which they strove. They sought wealth in order to have power, and the respect and admiration which power commands, or, as I think is usually the case, simply because they needed to strive for something and this was the object that most readily presented itself. They sought what they found others seeking, just to be in the game. The more ambition one has, even of the more selfish sorts, the less he is likely to fall into sensuality.

It may seem to some that this assertion that ambition is essentially social, and that its object is the production of some desired effect upon the minds of others, is contradicted by the fact that rich and successful men often display a great contempt for what others think, and openly "trample upon the moral sentiment of the people." I think, however, that a close scrutiny of the facts will show that this supposed contempt of public opinion seldom or never exists. If it does exist it is simply because the person in question looks for the gratification of his ambition to the minds of some small group, his

rivals and associates in business, perhaps, whose sentiment differs from that of the public in general. The truth, in most cases, is that the opinion or moral sentiment disregarded is that of only a small part—though very possibly the best part—of the community. It is disregarded largely because attention is fixed upon the majority, who are indifferent to the actions reprobated and are ready to admire wealth and power however obtained. In seeking these things our rich men, our plutocrats if you will, are simply conforming to the reigning conception of what constitutes success.

Because it is a symbol convertible into any one of many forms of power, wealth must always be a main object of endeavor, and its attainment will perhaps remain for a majority of persons, the accepted standard of success. There seems to be a truth, however, in the idea that it plays a larger part than it should at the present time, larger, perhaps, than it has ordinarily played in the past. The kinds of power which wealth assures are after all the lower kinds. It will buy material commodities, mechanical service, and plenty of a certain sort of admiration. But the finer, stronger and more generous spirits among men are not, as a rule, to be satisfied with these; they crave something more ideal, more enduring, more personal, some higher place in the minds of those with whom they sympathize, something that, as I said above, appeals more to the social imagination. Ambitions of this higher sort are to be gratified by creative work in literature or art, by heroic deeds upon the field of battle or elsewhere, by eloquence in any noble cause, by the sort of philanthropy that involves personal service, and so on.

As compared with these finer ambitions the pursuit of wealth now absorbs more of the endeavor of the higher class of minds than has commonly been the case in the past. The dazzling succession of inventions and the sequent material progress have had a semi-hypnotic effect in turning the attention of men in this one direction and in shutting it off from others. The work at hand has been material work, chiefly the development of new means of production. Men have taken it up, and with the emulation inseparable from human energy have striven with one another to excel in it and to gain the power and honor that goes

with success. But in such work, more than in others, the accumulation of wealth is the proof and symbol of success, and this, accordingly, has more and more become the accepted standard, even for a sort of minds that in another state of things would have risen above it. A standard or type of success, set-a-going in this way, tends strongly to perpetuate itself. It becomes established in the habit of thought, in public sentiment, tradition and education, while other standards or types are neglected. Children are brought up in it, it is in the air; this comes to seem real and solid while other ideals are looked upon as vague and visionary. A few hundred years ago it seemed the most natural thing in the world to the ambitious among our ancestors, to sell off their property, raise a company and set off to the Holy Land to rescue it from the infidels. This is incomprehensible to us, but we see nothing strange in a man of ambition and imagination devoting a lifetime of strenuous endeavor to the making of tubs or the organized slaughter of hogs. One of these aims is no more strange than the other; both are natural and human, and the men who will do the one thing in one age are very probably the same who would do the other in another age.

We must, then, conclude that the standard of success which our age presses most strongly upon our attention is a narrow and, in some sense, a low one. It needs to be raised and diversified. The standard of success should be the symmetrical reflection of all the needs of human nature, not the exaggerated image of a few of them. Without expecting that wealth will cease to be an object of pretty general esteem and endeavor, we may hope and strive to break down the ascendency which it exercises over a class of persons who would serve the world better and find more happiness for themselves if they could devote their energies to the discovery of truth, the creation of beauty, or some other of the more imaginative aims. It may be asked, what is to hinder? The answer, however, is not difficult: to undertake careers of this sort in the face of the indifference to them which for the most part prevails, requires a self-confidence and vigor of initiative which is rare; the special education necessary is often unattainable; the chance of making a living is not encouraging; and, most fatal of all by far, the

state of public sentiment denies to the follower of art, for example, that appreciative sympathy which is essential to the unfolding of talent. The present age acts upon a large class of minds of the finer order as an uncongenial climate acts upon a plant: it chills them and stunts their growth: they feel homesick. And, aside from these, people in general would be much the better for the broader and richer life which a widening of the field of endeavor would bring with it.

To attempt to point out in detail just how this raising and diversification of the standard is to be effected would carry us too far from our special topic: it would simply lead out to a general discussion of social tendencies and the means of progress. I may say, however, that here, as elsewhere, the method of betterment is a vigorous exercise of individual energy and self-reliance. Each innovating individual, so far as he makes his ideas valid, alters the standard of success, opens new opportunities, does something toward the general upbuilding of the social structure.

It will be apparent, I think, that the view regarding the nature of success here maintained is decidedly a hopeful one so far as concerns the possibility of progress, and wholly opposed to the pessimistic attitude based on the supposed "selfishness" of human nature and inevitable predominance of the economic motive. The motive that really predominates, now as in the past, is essentially social and moral, it is the desire to be something in the minds of others, to gain respect, honor, social power of some sort. This being the case human endeavor is above all things plastic, controlled by the spirit of the age. The standard of success, and with it the whole character and tendency of competition, is a social or moral phenomenon accessible to human endeavor. Society can and does determine what success is.

A STUDY OF THE EARLY USE OF SELF-WORDS BY A CHILD

V

A STUDY OF THE EARLY USE OF SELF-WORDS BY A CHILD [1]

It has long seemed to me that the first use by children of names for the self—particularly the pronouns "I," "me," "my" and "mine"—was a matter of peculiar interest. Here, if anywhere, I thought, we may hope to make out what the self-idea actually is, in its naïve and comparatively simple form, in the form under which it functions in the every-day relations of life. I was especially attracted by the interest of the matter for sociology—as throwing light on the question how far and in what sense the self-idea is a social conception—but I suppose it has a bearing on other aspects of psychology, and perhaps on metaphysics.

Having already made some scanty observations in the development of two of my children I determined, in the case of a third, to give especial attention to this point and make as full a record as practicable of the use of self-words and whatever seemed to bear upon it, up to the time when they were thoroughly mastered. This determination was not carried out with ideal completeness; but I hope enough observations were made to be of some value.

The record extends from soon after birth until the thirty-third month, when the normal use of self-words seemed to have been acquired. The method was simply that of ordinary observation, with very little deliberate experiment: the idea being to get a view of development under usual conditions.

The observations relate chiefly to a period of about a year, beginning with the twentieth month, during which the child

[1] Published in *The Psychological Review*, XV, No. 6 (November, 1908), pp. 339-57. This inductive study checks and amplifies the author's earlier observations upon the development of self-feeling in children. The result is the verification of those hypotheses which he had embodied in *Human Nature and the Social Order*.

"learned to talk." Some scattered notes, however, are given from an earlier period, as being possibly suggestive of the growth of the self-idea before it becomes articulate. The matter given, with the exception of that in brackets, consists exclusively of verbatim transcripts of notes made at the time the phenomena were observed. It must be said, however, regarding the theoretical suggestions thrown out in the notes, that I had some theories to start with.

I proceed to state more particularly some of the questions in relation to which the observations seem to me to be of interest.

The General Problem.—This may be said to be, "How is 'I' learned and what does it mean?"

It is evident that the learning of "I" offers a somewhat peculiar problem. The reason is the apparent impossibility of learning its proper use by direct imitation. As used by other persons it never, apparently, means the same thing as when used by the child. An apple is an apple to all alike, but "I" is different for every user of the word.

As to what it means; the following, to me at least, are interesting questions. Does it mean the physical self? If something else, then what? How far, or in what sense is it a social idea? How is the naming of the self related—as to priority and otherwise—to the naming of other persons? What other names for the self are there, and how are they related to the pronouns of the first person? On all these questions the notes have more or less bearing, which I will try to indicate, in part at least, with the hope of rendering them more interesting and intelligible.

Inarticulate Self-feeling.—The child early manifests a feeling akin to pride in control over her own body and over material objects. (See observations on the fourth month, twentieth day, on 10–16, 11–22, 15–17.)

This extends, nearly or quite as early, to the sense of power over other persons. (3–1?, 3–4?, 3–6?, 7–1, 11–22, 13–28, 15–8, 15–17, 15–24.)

The Correct Understanding of "I" and "You" when Used by Others.—This was achieved by the middle of the nineteenth month. (19–14, 19–16, 19–19.) It is to be noted that this does not involve the same problem as the correct *use* of "I,"

since that word may be understood as a mere objective name for the other person.

Imitative Use of "I" Phrases, Apparently Without a Sense of the Subjective Reference, or Indeed any Discrimination of "I" from the Rest of the Phrase.—This is clearly the first step in the actual use of the word, and is a phenomenon that continues, more or less, long after the correct use is acquired. It began, in this case, early in the twenty-second month. (22–7, 22–12, 23–1?, 23–17, 23–23, 24–3, 24–6, 24–7, 24–8, 24–9, 24–10, 24–12, 24–15, *et seq.*)

Suggestions as to How the True or Subjective Meaning of "I" is Grasped.—This is in some ways the most searching question of all. My answer is that the child gradually comes to notice the indications of self-feeling (the emphasis, the appropriative actions, etc.) accompanying the use of "I," "me" and "my" by others. These indications awaken his own self-feeling, already existing in an inarticulate form. He sympathizes with them and reproduces them in his own use of these words. They thus come to stand for a *self-assertive feeling or attitude,* for self-will and appropriation. This view is reinforced by noticing how responsive the child is to stress, and how readily she understands and reproduces exclamations and other emphatic words. (14–9, 21–13, 23–5, 23–19, 23–21, 23–23, 24–6, 24–10, 24–15, 25–4, 25–5, 25–6, 25–13, 25–21, 26–2, 26–13, 26–16, 26–17, 26–28.)

Examples of the Earliest Correct Use of "I" and Other Pronouns of the First Person.—(23–1, 23–5, 23–12, 23–21, 23–22, 23–23, 23–30, 24–4, 24–6, 24–12, 24–15, 24–16, 24–18, 24–20, 24–21, *et seq.*)

Does "I" Mean Primarily the Visible or Tangible Body?—To this, if I correctly interpret the observations, the answer must be, No. "I" means primarily a self-assertive feeling, linked with action or emphasis expressive of the same. The earliest examples connect it with the assertion of sensation, of action, of service and of appropriation ("I see mama," "my toast," "I make go," "I carry pillow," "I get it for you," "my mama," "I go play sand-pile," "I got two flowers," etc.).

Moreover there is another name which comes into use about the same time as "I" and means primarily the physical body.

This name, in this case, was "baby," and was apparently learned by direct imitation and association, like the name of any other visible object. The shadow on the wall and the reflection in the looking-glass play an important part here. It is noteworthy how comparatively late self-feeling seems to connect itself with these images. They are much less interesting at first than the shadows or reflections of other persons. (19–16, 19–23, 20–25, 21–13, 23–2, 23–7, 23–14, 23–19, 23–25, 23–28, 23–31, 26–2, 26–28.)

In What Sense is "I" a Social Conception?—The answer to this is apparently something as follows: "I" is social in that the very essence of it is the assertion of self-will in a social medium of which the speaker is conscious.

A sympathetic study of the early use of the word will, I think, make this quite plain. "I" is addressed to an audience—usually with some emphasis—and its purpose is to impress upon that audience the power ("I make go"), the wish ("I go play sand-pile"), the claim ("my mama"), the service ("I get it for you") of the speaker. Its use in solitude would be inconceivable (though the audience may, of course, be imaginary).

To put it otherwise, "I" is a differentiation in a vague body of personal ideas which is either self-consciousness or social consciousness, as you please to look at it. In the use of "I" and of names for other people, the *ego* and *alter* phases of this consciousness becomes explicit.

Others are Named Before the Self.—This was clearly true in the present case. (14–26, 15–8, 18–30, 19–16, 19–18, 19–23, 21–13, 24–20.)

Other Names for the Self.—It is well known that little children frequently use a name for themselves that is directly imitated from others, like the name of any other object. In this case as already noted the first name of this sort was "baby." It did not precede "I" and gradually merge into it as the child became more sophisticated (many have the impression that this is what takes place), but it arose simultaneously, so nearly as could be ascertained, with the pronoun form. (23–19, *et seq.*)

"Baby" meant at first her reflection in the glass, her shadow on the wall, her physical person. (19–16, 19–23, 20–25, 23–7,

23–14, 23–19, 23–28, 23–31.) It was soon, however, applied to action and possession. (23–25, 24–15, 24–20, 24–21, *et seq.*)

It gained on the pronouns and for some weeks was the commonest name for the self, though it never entirely supplanted "I." (24–21, 24–25, 25–2, 25–14, 25–16.) The pronouns, however, mended their pace, gained a lead, and gradually displaced "baby" altogether. (25–21, *et seq.*, to the end.)

"She," another self-name acquired by direct imitation—*i.e.*, by hearing people say "she needs a clean dress" and the like—was used as early as 23-2 and is noted as common towards the end of the twenty-sixth month. It continues so for about two months, then diminishes, and is discontinued about the end of the thirty-second month. (26–22, *et seq.*, to the end.)

The use of "you" for "I" by direct imitation (*e.g.*, "I carry you," meaning "you carry me") is first recorded at the end of the twenty-third month, and remained common well into the twenty-seventh. I think, however, that this was never so definitely and deliberately used as a self-name as was "she" —perhaps because "you" was already understood in its true sense. Its use for "I," though very common, was mostly confined to its occurrence in phrases which were repeated as wholes.

The observations follow.

Second month, 11th day. *B* cries for her bottle, and cries in apparent anger when it is taken away from her. Sometimes cries when laid down.

3–1. *B*, two months old, already cries to be taken up, or in protest against being laid down, also for her bottle. [This and some of the following observations are given as possible manifestations of an early sense of appropriation, such as later underlies the use of self-words. Those cases where the thing appropriated is not a material object but the attentions of other people are especially pertinent. They seem to be the beginnings of that desire for control over others, for social power, which plays so large a part in the mature self.]

3–4. Apparently she has a sense of being neglected, which makes her angry. If I let her simply lie in my lap she screams angrily, but picking her up and changing her position mollifies

her. It is not pain that makes her "mad." If so she already appropriates attentions that do not minister appreciably to her comfort, has a social self. [Perhaps mere discomfort sufficiently accounts for the crying.]

3–6. *B,* laid down on the bed yesterday, cried hard, with intervals of rest, for twenty minutes or more. *E* finally took her up. She was "mad."

4–20. *B* has a look of power and triumph—eyes open and lips pressed together—in grasping and shaking a napkin-ring, or my beard.

7–1. *B,* six months old, clearly appropriates *E's* attentions. She is used to them and has the my-feeling about them. She cries "mad" when she is laid down on the bed and *E* goes away.

10–16. What pride *B* shows in her face when she stands on her own legs, holding on to the chair-back, or makes the water splash in her tub. She has put forth will, has intended and achieved, and her look shows the sense of power.

11–22. *B,* nearly one year old, is playing with a large envelope. She pulls it away and grunts angrily when I take hold of it. When she is standing on a chair and I am holding her by the dress she will sometimes try to remove my hand from the latter [*i.e.,* resents assistance]. When *E* or I have been with her and attempt to go out of the room she generally cries.

13–2. *B* now knows "your ear" [*i.e.,* will touch her own ear when she hears this expression]. She has had her hand directed to her ear, also watched herself feel of it in the glass. For a week or two she has known "ear" as applied to others.

13–3. She does not remember "your ear" to-day. She imitates a good deal by ear, little by eye. A hissing sound she repeats when she does not [immediately] hear it made.

13–9. She distinguishes vaguely between "ear" and "your ear,"—not, I think, with any [true] sense of "your." "Your ear" is merely a name for certain sensations.

13–28. *B* loves to walk holding my finger. She screams determinedly when I sit down, or when *R* or *M* is offered as a substitute. She will also lead me to the front door and insist on having it opened and going out. In general she is capable of forming clear wishes and insisting on gratifying them.

Her "self-consciousness" or "showing-off" idea is not yet

very distinct, though *E* thinks she is often conscious of spectators.

14–9. *E* was feeding baby alternately with herself orange at the table and saying with some emphasis "Now it's *my* turn." So the word might easily be learned. [*I.e.*, the self-assertive emphasis and feeling on the word "my" might be learned along with the sound, and the child thus acquire an inkling of the true meaning of the word as the name of a self-assertive attitude.]

14–26. *B* seems to take no interest in her reflection in the glass. Has she become used to it as a picture and not sophisticated enough to care for it as herself?

15–8. *B* has, I think, no self-consciousness regarding her reflection in the mirror. She will smile at it as at another baby, or look puzzled; but there is nothing that suggests self-recognition.

She will sometimes pluck my sleeve or foot to get a look [from me] when I am reading.

15–17. *B* is very vigorously appropriative; screams when she is not allowed her own way, as when she wants to sit in her mother's lap or to have a plaything. Is said to have objected the other day to Emily (still younger) touching her playthings.

15–24. *B* seems to be jealous, or at least fretfully appropriative, of other people. She is not well; her teeth irritate her and her digestion is out of order. She will not let any one else touch her mother when the latter is holding her, but will grunt complainingly and push the offender away. So when I had her at *T's* she objected to their baby touching me. She expresses the idea "mine" very clearly.

15–27. *B* is very fond of being talked to—more and more evidently so for some weeks past. She makes noises in reply, chiefly a soft "ah," apparently intentional.

15–30. *B* has been indisposed for some weeks, "out of sorts." She frequently objects to being looked at, especially by her mother, and will complain and push the other's face about till it looks away. Perhaps she feels the anxiety [expressed in the face] but I think it is a "sense of other persons," a feeling of disturbance and claim.

17–. She imitates dog, cat, squirrel, horse, whistle of nipple, squeaking of finger on tub, children crying, etc., bluejay, rushing of water, piano, pounding of hammer, tearing of paper, many human sounds. The more familiar used as signs.

18–2. *B,* seeing a picture of a man showing his teeth—a tooth-powder advertisement I believe—shut her jaws and opened her mouth in imitation. This is the first conscious facial imitation I have noticed. She watches herself in the glass occasionally.

18–30. *B* shows no (reflected) self-consciousness, nothing like vanity or affectation. She seems to attach no particular meaning [?] to her own name, though often called by it. She betrays no interest in her own shadow on the wall, though she recognizes "mama," "papa" and occasionally *R* [on the wall].

19–14. *B* apparently understands "my" and possibly "me." With four of us sitting about she will correctly put her fingers on "your" (*i.e.,* her own) eye, nose, ear, tooth, etc.; "my," "*R's,*" "mama's," "papa's."

19–16. *B* seems to have no reflective self-consciousness. She has and uses names for papa, mama, etc., none for herself. It is doubtful if she understands any name for herself, though she knows the meaning of "your" as applied to nose, ear, etc. She recognized and named our shadows on the wall before showing any interest in her own. She knows the latter now as "baby," but seems to regard it merely as an external object. [She understood but did not *say* "baby" as referring to her shadow.]

19–18. *B's* words are used when she sees the object, or when some one mentions it, not deliberately to ask for something. "Mama" she has only begun to use in this way within a few days, *i.e.,* calling out when she sees *E.*

19–19. "Other." She understands this perfectly; "other eye," etc. When I said "Where is the other mouth?" she pointed to *R's.* She does not know "his" or "her" though clear on "my" and "your."

19–23. *B,* as *E* and I agree, has no reflective idea of herself at all. She knows the reflection in the glass and the shadow on the wall as "baby" but seems to view them merely as external

objects, without self-feeling. She is beginning to call the rest of us by name, but has no name for herself.

B has none of the evident "self-consciousness" that *M* had much earlier, none of the "perfect little actress" tricks. She is learning to talk rapidly.

20–25. *B* when asked "Who is this?" (touching her on the chest) answered, "baby." This is the first time she has been observed to name herself.

21–13. I notice that *B* constantly hears "my" and "mine" used emphatically and addressed to herself. For instance, at table her mother, feeding her, will say of the food "No, this is mine," etc.

The children try to teach her to say "baby,'" but as yet she does not do so at all of her own accord, though she says "mama," "papa," and "Leila" freely.

22–7. *B* now says "I see" or "I do" imitatively, with no real sense of the meaning of "I," after *E* or the children. To-day she said "two ear," the first observed case of her making a sentence, limiting one word by another.

22–12. *B* has been taught to say "I see Yacky," "I see papa," etc. She seems to have some inkling of the meaning, and will say "I see cocky" to the picture. It is all imitative and probably involves no true sense of "I."

23–1. *B* was playing by herself in the room with *E* to-day, and began to say "my mama" over and over, meditatively. Presently she changed to "my papa," then "my hanky." She said it very plainly. It is not apparent why she connected it [*i.e.,* the word "my"] with these words. Doubtful also whether she had any sense of the meaning.

23–2. She still has no word for herself. We call her "baby," but she never uses it. . . . If you say "Where's baby?" or "Where's *B?*" she says "Here she is." [This last phrase probably a mere echo.]

23–4. It is hard to tell whether *B* appropriates her reflection [in the glass] or not. Sometimes she seems indifferent, sometimes a little "strange," as if it were some child she did not know. She was much amused and delighted when she saw it with its clothes off. Never, apparently, does she seem "self-

conscious" about it, like an older girl "seeing how she looks."

23–5. *E* says "I see baby." *B* says [in answer] "I see mama" *not* "I see baby." She even seems, sometimes, to emphasize "I." Of herself she said "I see O" [the letter]. She knows "I see" as an exclamation of seeing; but whether she feels the self-assertion in it I can't say.

23–7. *B* understands that "baby" means herself when some one else speaks it (probably also "Mary Elizabeth" and "Mary") but she will seldom or never say it herself. Touch *E* and ask "Who's this?" she says "mama"; touch me, "papa"; touch her, she remains silent or grunts. She will not repeat the word "baby" after you in any connection, though she will almost anything else. She does not seem embarrassed or self-conscious or puzzled; merely prefers not to use the word. It is hard to interpret it, I can only suppose some slight embarrassment. Formerly she did say it occasionally, now not at all.

23–12. *E* thought she said "my toast" this morning, but could not say whether she really meant it. It is easy to see, however, how she can learn "my."

23–14. Proofs from photographer. *B* will point to her own picture when we say "Where is baby?" but seems quite indifferent to it and will not name it when we point to it. On the other hand she eagerly points out all the rest of us.

23–17. *B* is perfectly able to say "my" as indeed almost anything else, and occasionally does so imitatively. Just now *E* said "Where's my shoe?" and *B* repeated "my shoe."

23–19. This evening *B* overcame her reluctance to name herself. *E* touched herself, saying "Who's this?" *B* said "mama." Then she touched *B,* repeating the question. *B* answered "baby" with a smile—almost a laugh. She has often refused to do this, though she knows the word "baby" very well.

I notice that *B*—and doubtless all children, *vide R*—quickly notice and imitate any word used with strong emphasis, reproducing the emphasis as exactly as possible. To-day *E* lost her patience over the push-cart and said "the deuce" half under her breath. A few minutes later *B* began saying it, repeating it many times. This may bear on the learning of "my" and "I," being words often brought out with strong feel-

ing. "My" might be used at first as a mere exclamation associated with controversy.

23–21. *B* was calling her ball "come ball," then "mama." *E* said "Don't call me, I'm not a ball." Immediately she began to say "Don't call you, don't call you."

B this morning was pulling the thread from some of the spools on *E's* screen, making the spools revolve. She said "Makee go, makee go." Presently she hesitated and said "I makee go, I makee go" quite clearly, kind of singing it to herself. She has never used "my" understandingly nor called herself by any other name [?]. N.B. Just as I was saying this in her presence she remarked "My papa" as if to confute me.

[The above is the first fairly clear case of the deliberate use of "I" with a true sense of its meaning.]

I have little doubt that *B* uses "I" with a sense of appropriative feeling which she has perceived to accompany its use by other children. *M,* for instance, is constantly saying "I'll do it," "I'll show you," etc.

23–22. *E,* "Where is the marble? Do you see the marble?" *B,* "I see marbly" (though she didn't).

23–23. "Me," first use of the word. *B* was reaching for her pillow. *E* was present but at a little distance. *B* said, as if to herself, "gi't to me, gi't to me." Then, as if pleased with the sound of the word, she said several times "me, me, me." As *E* says, she probably hears the children use this phrase and stores it up as a whole. "Give it to me" is associated in her mind with appropriative activities observed in others.

Although *B* is apparently beginning to use "me," "I" and "my," she does not by any means employ them wherever they would be in place. Thus *E* says, "Ask Rutger to put you up." She goes and says "Ask Yacky put up," a mere repetition.

Just now *B* suddenly began tugging at a piece of tape attached to some work *E* was doing, crying emphatically, "My my," She did this for a few seconds and then turned to something else. She never [?] used the word before except by mere echo.

23–25. Said "Baby's shoe" without suggestion. First [possessive] use of this kind of name for herself.

[The reader will note that the use of the subjective names for the self—"I," "me" and "my"—begins almost simultaneously with objective names like "baby."]

23–26. To-day *B* was riding in her cart and put her hand on the wheel. [She had been scolded for doing this.] She exclaimed "Why, baby" in a tone of reproof, just as she says "Why, Yacky" to *R*.

23–28. [By her mother.] Playing with silver cup. I said "Who is in there?" seeing the reflection. She looked in carefully and said "Mama" (I was looking in too), "baby." I said "See the blue dress." She put her hand on her own dress. Presently she put her hand on her head (not looking in the cup) and said with a queer little look, "My baby." As when a familiar idea looms up in a new light, not a smile.

23–30. *B* is learning to talk very rapidly. She will look at a picture of two girls and say "Lilly girl walk-walk. Other lilly girl walk-walk." When she falls down she says "You'll fall," and then "Hop up." [Echoes, of course, of what has been said to her on such occasions.]

This afternoon as *B* was lying on the bed she said, *apropos* of nothing, "This is me, this is me." Apparently there could be no mistake about the words, but I am not sure what she meant.

23–31. She was interested in her shadow on the wall this morning, putting her finger on it and saying, "Baby, baby." She has known this for months and got it directly, as the name of the shadow.

She seldom if ever calls herself "baby." [The cases previously recorded remained for a time almost unique.]

24–3. *B* still refuses to name her reflection in the glass—usually; though occasionally she will say "Baby." She seems a very little conscious about it now.

"Where's my comb?" *B* said this many times yesterday—imitatively. It began in her taking *E's* comb, who said "Where's my comb?"

24–4. Sitting on the piano this evening *B* said two or three times, with emphasis, *apropos* of nothing obvious, "Dis my." Don't know just what she meant.

24–6. *B* was playing with her pillow up stairs and talking

to herself. She said "I carry pillow" several times = taking it from the box to the chair, etc.

E dropped the book and said "There goes our book." *B* said "There goes *my-y* (emphatic) book."

When *B* wants to be carried she says "I carry," an echo of "Shall I carry you?" or she says "Takey you, takey you," echoing "Shall I take you?" These are words, total symbols: she does not analyze them.

24–7. Just now she was sitting on my lap. She reached toward *E*. "What do you want?" "Shee-e you" = apparently "Come and see you." [It was still doubtful whether she had acquired the proper use of "you."]

B occasionally repeats sentences beginning with "I" that she has heard; *e.g.*, "I guess it's so."

24–8. *B* says "I'll carry you" when she wants to be carried; an echo of course. "Yacky tease you" (me). [On the other hand "you" is sometimes used correctly.] *B*, crying, says "I want you," apparently her mother.

24–9. At breakfast *B* says "Come see me" to the stuffed duckling. She probably learns such phrases as wholes = "I will take it" or the like.

M said "I wish baby could go outdoors." For some minutes thereafter she [*B*] said at intervals "I wish out doors."

24–10. She constantly repeats [after some one else] phrases containing "my," *e.g.*, "Don't touch my (sewing-machine) wheel." She seems to put more emphasis on "my," dwelling on it as if it impressed her.

B shows great aptitude for exclamations—doubtless because they are uttered with great emphasis. She has recently used "Deuce," "Gee Whiz," "Oh, My," "Oh, Dear," "Why Yacky." N.B. "My" and "I" are perhaps learned on nearly the same principle, *i.e.*, an expression of vivid feeling.

February 19, when Leila went away, *B* could scarcely if at all put two words together. She had a few single words besides our names; *e.g.*, "street-car." Now, not two months later, she uses words quite freely and gets off such sentences as this (probably copied, but not immediately) "Where my nut, squirly says" (no attempt to give exact sound).

24–12. She just said "Where's my ball?" (We had been playing with it.)

She says "Take you," "I carry you," meaning, apparently, "You take me," etc.

She just said "Eat my spoon." (She had a spoon in her mouth.) Can't tell how she understood it.

The use of "you" for "I" is very frequent.

24–13. *B,* looking for *E,* said "Hello, baby" [echoing what her mother might say when found].

24–15. She says "I take you" (You take me), "Come and see me" (you) and many similar phrases. But she perhaps does not identify "me" with any one else. They are mere [imitative] formulæ describing action. "I carry you, shovely," she says to the shovel. To the candle "I takey you." [These last are examples of how "I" may be correctly used in describing action before its special meaning is discriminated.]

She dropped the harp and wanting *R* to get it, said "Want that, Yacky?" He did not move: then she got down, saying, "I get it for you." This last phrase is one she hears her mother use, and probably means for her merely "pick it up" or the like —perhaps with the idea of self-action.

To-day she said "Baby wash hands," meaning she wanted to wash. She does this [uses "baby" to name herself] occasionally now, not often, but apparently more often than she did.

"Want you" = "I don't want you." N.B. "You" here seems used correctly.

24–16. She just called out as she was going up stairs, "Going to find my dolly."

But this [use of "my"] is rare. Did she mean possibly "Margaret's"?

24–18. She caressed *E* just now and said softly and deliberately, "This my mama." And immediately put her finger to her face and said "baby." It looked like an effort of self-social consciousness. This is rare if not unique.

24–20. *B* has occasionally used "I," "my," "me" and "baby" apparently as names for herself (as previously noted) but at this date she uses none of them commonly. When she wants a thing she simply names it without personal pronouns.

She has no name for herself in regular use. Though she names the rest of us constantly.

B's imagination is developing. We have told her the wolf and piggy story, and she thinks about it. She came up to *E* yesterday and said "Wolf say puff! juff!" To-day she seemed to think the wolf might be down the register, saying, "Wolf down there? No, no, wolf."

At dinner to-night she asked for potato by saying "Baby some tato" but did not use this form again. She also said "I takey pillow" when she picked it up to bring to me. This evening again, "Baby lie down."

24–21. She seems to have begun the free use of "baby" as a name for herself. The first thing this morning she said "Baby want matches" and "Baby's shoes."

To-day she picked up a handful of grass and said, softly as if to herself, "I gotty grass." Then *E* picked up a handful and she said "You gotty grass."

She now uses both the pronominal and "baby" form. I am curious to see which will prevail.

[Between the last and the succeeding.] This morning *B* said "Baby's leg." Immediately after she said "I sit down."

24–24. My for me. "My some tato."

24–25. "I" and "baby" together. "Baby go getty hook. I gotty hook. Gi' it to mama." She seemed to be dramatizing, speaking *to* baby. She uses "baby" a good deal, "I" rarely.

You. "You takee book too," meaning herself.

24–26. My. "Takee my hand and pull."

25–2. Looking for a picture of a baby in the magazine she said "Baby, where are you?" Probably imitative? [The correct use of "you" was still uncertain. "You" mostly meant herself.]

B uses "baby" now a good deal. Also, occasionally "I" as just now "I take the rooster." She still uses phrases like "I take you" (= You take me).

"I" used rightly a good deal: "I get this ball." Have not noticed "my" recently. *E* says she occasionally says "Take my hand."

25–4. Although she uses "I" correctly at times she almost

always (quite?) uses phrases she might take bodily from others —as "I'll get the carriage," etc. I incline to think she learns these as wholes.

B wanted the knife. *E* said emphatically, "My knife." About fifteen minutes later *B* said "Want that *my* knife." She took it and repeated "My knife." [This is perhaps suggestive as to how "my" becomes associated with the expression and act of claim.]

Mixing "I" and "you" (as self-names). "Mama carry you (me). I go play sand-pile." Also to her doll-carriage, "Stay there. I'll go pick stones."

25–5. She uses "I" in sentences of action rather frequently —perhaps a dozen times a day, *e.g.*, "I getty cushion."

25–6. "Have that my knife. *My* knife." [See 25–4.] Immediately after she said "Papa help you" (me). She doesn't use "me" in its right sense, if at all.

25–7. "Baby, I." Sometimes she unites them: "Baby I got two, mama." She uses either quite freely in this sense.

Long sentence. "When Yah-Yah ring bell ding-a-ling-a-ling, then come dinner."

25–8. "Where's the pillow?" "I'll get it for you."

25–13. She says "I got two flowers." Is very fond of "I got two—." Last evening she was saying "My Margy" and "My papa." I never heard her use "my" in altercation. [This refers to a theory I had that the first personal pronouns, especially "my" might be learned in disputes over possession.]

25–14. She uses "baby" now a good deal. ["I," "my" and "me" rarely.] Will these be lost?

25–16. *E* thinks that *B* frequently says "Come see me," etc. It is often hard to tell whether she says "me" or "baby," she has come to slur the latter so.

"Margy, come see me baby."

25–21. *M* said, "I want some bread." *B, "I* want bread." [The stress seems to show a sense of the self-assertive meaning of "I."]

25–21. The use of "I" seems to be gaining rapidly on "baby." The former is now, perhaps, the more common.

[Additional examples of the correct use of "I" and "me" are omitted as superfluous.]

[Between the last and the succeeding.] "Mine," first use. She was talking to herself, making-believe finding things and holding them out. "Want necktie; here's mine; here's mama's."

26–1. "I won't." Said reflectively, not controversially, this morning when asked to come up stairs. [An echo from other children?]

26–2. I-phrases. She uses many which she seems to learn as wholes—"I don't know," "I want—," "I won't," "Come see me," "Wake me up." From these she probably gets the I-idea by elimination. [*I.e.,* the rest of the sentence varies but the pronoun remains constantly associated with the expression of will, the self-attitude.]

She has at this date no notion of calling her body "I," apparently.

Looking at the photograph she says "There's baby," never "That is I" or "me." But when we ask "Where are you?" she says, with some hesitation, "There's baby." (But, on further experiment, this is uncertain.) In answer to "Where am I?" however, she named [pointed out in the picture] the speaker.

26–4. Taking a picture from my hand she said "That's mine."

26–6. My. Although she sometimes uses it correctly she also uses it incorrectly. *E.g.,* "Mama go get my [your] lap-board." "Take my [your] leg up."

She never, I think, says "your," "her" or "his." (Except your = my, by direct imitation.)

She uses "me" with more emphasis now.

She said twice to-day "That's mine."

26–11. She still says "I carry you," much run together, for "take me up."

Not only does she still say "I carry you" for "You carry me," but in many other phrases as "You want cake." Often she will use "You," "I," and "baby" in quick succession to mean herself.

26–13. Quickness of children in applying language. It is amazing, hardly to be fully realized or explained by adults. They are constantly bringing out very aptly some expression they have heard only a few times. Thus to-day *B* said to *R*

"Ring off" when he was teasing her. [Current slang for "cease."]

26–16. *R* was threatening to take away a necklace. She almost screamed "Dat mine." Speaking of her dress she said "That's *my* dress; that's *mine;* that's *baby's*" all in the same sentence. [The gradual increase of appropriative emphasis on the self-words is notable.]

26–17. Saying "My book" with great emphasis, at times almost a scream, when threatened with dispossession by *R*. [Compare 25–13.]

26–18. Emphatic "you." "*You* go get the ball."

26-21. "Herself." "Baby hurt herself" she said to-day when she fell down.

26-22. "She" for self. Is common; *e.g.,* "She does not want to go to bed." Imitative of some one's remark about her. [This form became very conspicuous about this time.]

26–24. "She." To-day she has used this more than "I" or "baby."

26–28. *E,* "This is mama" (pointing to *B*); "This is baby" (pointing to herself). *B,* "No, *mine,* baby." [This seems to be the first definite application of a self-pronoun to the physical person.]

27–2. Although she uses "I," "me," "my" and "mine" freely and vigorously she still uses such phrases as "Mama wants to carry you." (= I want mama to carry me.)

"We don't want papa," she said to-day. [First recorded use of "We."]

27–8. "I don't want to bite you." (= You don't want to bite me.)

She uses right and wrong expressions with great freedom and indifference. "She," "baby," "I," "you," may each mean herself.

27–9. "I want to take a walk with me" (you).

27–14. She uses "she" for "I" a good deal; but "I" equally or more. Also "baby." She is fond of saying "I think" or "She thinks." Sometimes she uses this form, "She says she wants two dollies."

27–25. *B* still uses "I," "baby" and "she" interchangeably. She is beginning to say "Mary Liffit" [Mary Elizabeth] also.

28–8. She varies for emphasis. "I like cake! She likes cake! Baby likes cake!" in quick succession.

"That's yours, Margaret, and that's me's."

28–27. "I," "baby," "she." *B* still uses all three for herself. I think she tends to use "baby" rather more for "me" than for "I." "She" is perhaps somewhat diminishing.

29–26. I notice only an occasional use of "she" and "baby" now; also that "I" and "mine" are used with more mastery and gusto.

30–2. Heard her use "she" [for I] but it is rare.

30–12. *E* says that *B* still uses "she" and "baby" a good deal, though less than she used to.

30–27. *B* still uses "she" quite often, though "I" and "me" are much more usual. Sometimes she gets queer combinations —as "me are."

31–1. She just now said "Baby going to dance 'se'f" [herself].

31–9. *B* has learned to know *T*. To-day she accidentally made one with her blocks. "Come see my *T*" she exclaimed. Then she made many more, quite excited, crying "*I* did it," etc.

32–26. Some peculiarities in pronouns. "Yes, we am—Huh! 'we am'—that's a funny way to talk" [self-criticism]. "Let I see it." "She's name is Binks." I and she are often used in the objective case.

33–5. We note that *B* no longer uses "she" for "I." She has gradually dropped it.

POLITICAL ECONOMY AND SOCIAL PROCESS

VI

POLITICAL ECONOMY AND SOCIAL PROCESS[1]

I had formerly some claim to be called an economist, having taken a Doctor's degree in that subject in 1894. Having since that time devoted myself to sociology it is only recently that I have endeavored to recover my economic foothold by reading those current books that seem to have most acceptance. The following paper is in the way of general comment on this reading.

The science and philosophy of the present day strives to see everything as part of a process, as growing out of the past under the operation of ascertainable laws, and giving rise, in a similar way, to the future. What should this mean as applied to economics? What should we expect of a doctrine of economic process? Such a doctrine should, of course, embrace something corresponding to the theory of production, exchange, valuation, competition, and the like which we now study in the textbooks; but it should do much more than this: it should show these immediate processes as consistent and intelligible parts of economic process at large; it should enable us to understand their human significance and to act wisely with reference to them. Practical guidance is what we have a right to ask of every social science, and that we may have this, special phenomena must be seen in the light of their larger relations. An adequate doctrine must, then, take account in

[1] Published in *The Journal of Political Economy,* XXV, No. 4, April 1918, pp. 366-374. The following appears as a footnote in the original printing.

"This paper was read before a small group of students and instructors in 1910. Several of my auditors have become influential teachers and writers and their partiality, enhanced by the haze of retrospect, has suggested that it be printed. It never had any pretension to be a competent criticism of political economy, and there is much which I should say differently if writing now. But I cannot say that I find it essentially untrue to my view of the present state of things."

the largest possible way of the economic movement with a view to rational social action for economic welfare. Where economics falls short of this it fails of its essential function; and if it does fall short, if the function cannot be fulfilled immediately, it should not for a moment be abandoned as an idea; we should keep it in view and be content with no substitute.

What can we say of the actual treatment of process as we find it in textbooks and current discussions? It seems to be almost wholly a short-range study of mechanism, remarkable for elaborateness within a confined area, but not at all remarkable for breadth or for any light it throws on the wider economic and social significance of the mechanism of which it treats. To suggest the impression made upon one who takes up these studies after a long abstinence from them, I may say that the economic theorist appears like a man who should observe only the second hand of a watch: he counts the seconds with care, but is hardly in a position to tell what time it is.

It may be said that we have also a historical school of economics, which makes a special point of the study of the larger process. I cannot discuss this competently, but will merely record in passing my impression that its methods are too empirical to hold out much prospect of an adequate doctrine of process. I take it that we need theory, but theory that without losing any of the substantial results of current economics shall so broaden them as to meet in some degree the requirements already suggested. Now how far a theory of political economy is possible that should include an adequate doctrine of process no man can say; no worthy adventure is certain of success; but I see no reason to suppose that the difficulties of this one are insuperable.

By way of explaining my sense of the inadequacy of current discussions of process, let me make some observations upon them from certain central points of view, beginning with demand. Am I not right in saying that economic theorists practically start with demand as a datum, and that if they go back of this at all it is in such a desultory and half-hearted way that serious results are not to be expected? Demand is represented as what the people want, and if there is anything wrong with

what the people want we are to ascribe it to the corruption of human nature. It is quite proper to take demand as a datum for the purpose of an intensive study of market processes; but in practice this method too commonly amounts to assuming demand as justified, and as justifying all economic conditions that effectively contribute to supply it.

What is demand? It is simply an expression of economic power and will as determined by all the existing conditions. It is as much the effect as the cause of the actual state of the economic system. Like all our inheritance it comes down from the past in a turbid stream, bearing with it those struggles and compromises that make up human history. All the evils of the economic system, except those which are added in the market process, are already implicit in demand, and of course are transmitted to production and distribution. To accept this stream as pure is as if a city should draw its drinking water from a polluted river and expect to avoid typhoid by using clean pipes. The pipes—that is, the process connecting demand and supply—are a matter of great solicitude to the economist, the source comparatively little.

As to demand being an expression of existing conditions, note, for instance, that it is largely a class phenomenon. From income statistics collected in England and Germany for purposes of taxation it appears that about one-tenth of the population receive half of the income.[1] No doubt we must allow for a larger percentage of saving among the richer classes, but I doubt whether this is not offset by the notorious understatement of large incomes. It seems to me a fair guess, not excessive when judged by ordinary observation, that one-tenth of the people in a modern commercial state consume half of the produce. If so, demand is preponderately determined by the economic power and will of about this fraction of the people—a condition to be explained only by taking a view of economic process large enough to include the many forces tending to such a concentration of power. Whether this tenth is fit to exercise such a predominance over the whole process I have

[1] This figure is without doubt too small. Recent studies indicate that 20 per cent would be nearer the truth. [In America since the World War 15 per cent would be a close approximation.—Ed.]

not time to inquire: it is obvious that something might be said on both sides. It means much waste and misdirection of social resources, but also the fostering of important interests which a more equal distribution of power might possibly neglect.

I need hardly illustrate the statement that demand brings with it all the vices and degeneracy of the actual social system: it calls for drink, for prostitution, for child labor, for corrupt politics, as loudly as for better things. Are these things the outcome of the inherent corruption of human nature? In one sense, yes: in another they are the outcome of the economic process itself, and the economist, if he is to perform his function, must understand how it tends to produce them.

It seems clear that to start with demand as a datum shirks the most vital questions, economic questions, too, upon which society needs light. Indeed, there could hardly be a more vicious method than to confine attention to the process which mediates between supply and demand, leaving readers to infer, if not telling them in so many words, that economic good or ill is to be looked for wholly or chiefly in the greater or less efficiency of this process. The problem is not confronted at all, and yet the most sweeping conclusions are reached by apparently exact methods.

Perhaps the most notable example of this fallacy is to be found in the treatment of distribution by certain American economists of wide influence. They assume productivity as judged on the market as the righteous or approximately righteous basis of distribution, and in so doing of course accept demand, with all its implications, as the standard of economic justice.[1] With their further argument, very questionable in my judgment, that competition is, or tends to be, effectual in giving to each man or agent a share proportional to his productivity, I have at present nothing to do: I wish only to note the fatuity of their assumption. If demand itself is organized wrong—as in great measure it certainly is—even an efficient process may simply bind men into this wrong. I need only mention the case of a girl comparing the earnings of needlework with those of prostitution, or of children forced pre-

[1] Although most economists, I believe, now reject this theory it seems to me to be implied in much current teaching.

maturely into monotonous and stunting labor, to show what I mean. And these are not exceptional cases but typical of a great part of the actual working of demand. It would be easy to show that a society might conceivably be quite just according to the tests of these economists, and yet vicious, decadent, and with half its population in hopeless poverty. The vices and luxury would be duly paid for according to the law of productivity, and the increasing poverty would be justified by the increasing inefficiency which naturally attends it.

Of course the fallacy in all this comes from the fragmentary view of the economic process. The mind moves in a narrow circle from which the most vital facts are excluded. In the extreme case I have suggested, a really functional economics would consider in the largest way the capacities of the degenerate society and how its resources might be so used as, on the whole, to promote economic regeneration. And the partial degeneracy of our own order must be considered in the same large way.

The ordinary economic analysis affords no basis for a judgment of the social value of the present distribution of wealth; you might as well judge the social value of a man by the efficiency of his digestion. The analysis reveals forces which must be taken into account—and this is a real contribution—but they cover only a rather small part of the economic situation. It is the more or less veiled ethical pretensions of the narrow school of economic analysts that make it doubtful whether their influence is for good or otherwise.

I pass to some observations on competition, which is, if adequately conceived, the very heart of the economic process. Although this is recognized by economists to be the case, I venture to doubt whether they have attained any view of competition that really comprehends its economic function and its relation to other social processes. Political economy has, from the beginning, abstracted competition from other phases of the social movement, conceived it in a highly individualistic sense, and made of it, in this narrow sense, a kind of ideal. It has not shown it in its real nature as part of a process of progressive organization, in which competition and combination are

complementary phases of social adaptation. Competition has been isolated and idealized: combination has been regarded as a disturbing condition and treated by a method, very natural where facts and theory do not agree, which I will call the method of doctrinal patches.

Political economy has scarcely the rudiments of a doctrine of economic organization in a large social sense; this seems to me its central deficiency. In the lack of this the phenomena of organization have come upon us for the most part unexpected and un-understood, and the economic treatment of them, so far as there is any, is a kind of patchwork, not a consistent part of the system. The latter is still individualistic and static. A doctrine of organization, long overdue, should not be impossible of achievement. Some rather unorthodox economists, like J. A. Hobson and our own Professor H. C. Adams, have indeed made serious contributions in this direction.

To return to competition. It is, I think, an inconsistency characteristic of the narrow view economists have of social process, that free competition is regarded as a *static* condition. Now, in fact, a static condition is just what must destroy free competition and give rise to a rigid and non-competitive kind of organization. Free competition, in so far as it exists, is a phenomenon of social change, and only in a time of generally unfixed conditions could it have come to be looked upon as a matter of course, as normal. In so far as society crystallizes and approaches, even distantly, a static condition, free competition disappears.

Generally speaking, it is for the interest of competitors to "get together." There is also a natural advantage of position in the possession of a given function which, under settled conditions, makes strongly for monopoly. Now the condition of things most hostile to these forces is such a degree of economic instability that they do not have sufficient time and a sufficiently definite basis to work out their natural results. The conditions most favorable to "getting together" and to monopoly are those which are static, because they do afford time and a definite basis.

Far from free competition being "natural" under settled conditions it can persist under such conditions only in so far as it

is made a conscious object of public will. The only guaranties for its preservation are, first, that certain dynamic elements, such as the inequalities of individual capacity, cannot wholly be suppressed, and, secondly, the deliberate fostering of competition by such methods as free public vocational education and the public control of great industries, trades unions, and the like. The doctrine of unlimited competition by individuals or small associations as a normal condition was suggested to the economists by the disintegrated conditions natural to the transitional, highly dynamic time in which they lived. To incorporate this into a doctrine of static economics must appear to a student of the larger process quite unsound. The conception contains elements essentially contradictory.

I come now to the doctrine of public control. My impression is that economists treat this as a matter distinct from the economic process, as a patch which may or may not have to be added at a given place, but which is, in any case, something of an external and alien nature. I question whether we shall understand these matters until we attain a view which shall see public control as a normal and inseparable part of the economic process itself, which has grown with its growth in the past and must do so in the future. Have not economists made abstraction of certain phases of public control to which they were accustomed, such as the existing laws of property, contract and bequest, accepting these as normal while regarding others as exceptional, as more or less justifiable "interference"? But is it not the fact that there is here a continuous socio-political process which cannot be understood except as a whole and that the delimitation I have just mentioned is merely arbitrary?

To state it otherwise, political economy assigns a great sphere to rational control in its individual aspect, making this a part of its system, but ignores, or sets apart as interference, the same thing in its collective aspect. Now rational self-direction, whether individual or collective, must be regarded philosophically as the highest phase of the life-process, and, moreover, these two phases are correlative and, in a general way, develop *pari passu*. Political economy not only recognizes

but exaggerates individual rationality, assuming an almost ideal efficiency in it, while at the same time the correlative phenomenon of collective rationality is left out in the cold. The two are violently divorced, one being rejected, the other accepted, exaggerated, isolated, and formalized. Surely the conception attained in this way is highly unreal.

The attitude of economic theorists of the dominant school toward ethics I gather to be substantially that of a kindly banker toward philanthropy. He is willing to give money to worthy causes, but he insists that its principles shall in no way be mixed up with those of banking. Philanthropy and ethics are optional, personal, and matters of sentiment. Now I submit that while this attitude may have a certain justification as a method of abstraction in the working out of details, it is narrowing and debasing as applied to the large principles of any social science. What are these ethical aims of society? They are simply rational aims, representing the ideal of efficient total organization. There is a disposition to set them aside as matters of sentiment rather than of the intellect, but if we look closely at the matter we shall see that so far as sentiment is involved we are all pretty well agreed; we know that we want a just, kindly, and hopeful society. Taking this for granted we find that in practice ethics offers an intellectual problem, that of the principles in following which we may achieve the ends that all desire. A social science which is not also, in its central principles, an ethical science is unfaithful to its deepest responsibility, that of functioning in aid of general progress. I do not say that economics is, in practice, wholly unfaithful to this responsibility; but I am not sure that what it has done has not come more from the untutored good sense and good feeling of economists than from the principles of their science. The ethical considerations in the economic textbooks, so far as I have noticed, are admittedly patches, not organic parts of the doctrine.

In all inquiry into social process the central question is no doubt that of progress, of the increase of rational, efficient, humane organization. This is essentially an ethical question, and any social science which is informed by an adequate conception of process must feel it so. The economist must special-

ize in the economic aspect of progress, but if he does this in such a way as to separate the principles of his science from those of social ethics I conceive that he is fatally wrong.

On the whole, it would seem that the ingenious but circumscribed science of political economy deals with social process almost wholly in its immediate and somewhat transitory aspects —such as that of market valuation—and is not, in a large sense, a science of process at all.

The question has occurred to my mind whether the spirit of political economy is not, for the most part, pre-Darwinian. Is not the tradition originally formed under the influence of an individualistic, non-evolutionary philosophy still, in the main, ascendent, modified only by somewhat superficial applications of doctrinal patchwork? It is at any rate clear to me that the spirit of American theorists, as indicated by the writers of most reputation, is alien to that conception of organic process that is prevalent in contemporary philosophy, biology, and, in some degree, sociology. I have been surprised that works so essentially static and individualistic as those of —— and —— could be produced at the present day. Apparently economics has an atmosphere of its own, capable of protecting its votaries from distracting innovations.

REFLECTIONS UPON THE SOCIOLOGY OF HERBERT SPENCER

VII

REFLECTIONS UPON THE SOCIOLOGY OF HERBERT SPENCER [1]

I imagine that nearly all of us who took up sociology between 1870, say, and 1890 did so at the instigation of Spencer. While he did not invent the word (though most of us had never heard it before), much less the idea, he gave new life to both, and seemed to show us an open road into those countries which as yet we had only vaguely yearned to explore. His book, *The Study of Sociology,* perhaps the most readable of all his works, had a large sale and probably did more to arouse interest in the subject than any other publication before or since. Whatever we may have occasion to charge against him, let us set down at once a large credit for effective propagation.

It is certain that nearly all of us fell away from him sooner or later and more or less completely. My own defection, I believe, was one of the earliest and most complete; and since the recoil has gone farther with me than with most others, it is not unlikely that I now fail to do him justice. However, my views, such as they are, have at least had ample time to mature, and I offer them for what they may be worth.

The ancestors of Herbert Spencer were plain people of the English middle class, most of them dissenters from the Established Church and somewhat radical in politics. His father, however, was a man of marked ability, a teacher noted for ingenious ways of evoking interest, and the author of a work on *Inventional Geometry,* in which this subject was taught by

[1] Published in *The American Journal of Sociology,* XXVI, No. 2 (September 1920), pp. 129-145. The following appears in a footnote in the original printing:

"A paper read before the Research Club of the University of Michigan at a meeting held to commemorate the centenary of Spencer's birth. On the same occasion Alfred H. Lloyd read a paper on Spencer's philosophy, which appears in the *Scientific Monthly* for June, 1920."

a method of experiment and discovery. An uncle, Thomas Spencer, took a degree at Cambridge and became somewhat distinguished in the church, rather as an agitator of reforms, however, than in orthodox activities. He was frequently at odds with his colleagues and finally went so far as to advocate the separation of church and state. The innovating spirit observed in his father and uncle was justly regarded by Spencer as a precious part of his own heredity. His mother was amiable and devoted but apparently of no marked individuality, rather harshly treated by her husband, and sometimes referred to by her son as an example of the ill effects of too much self-abnegation.

Herbert received very little systematic instruction. This seems to have been due partly to his father's views, exalting self-activity and disinclined to force natural inclinations, and partly to the boy's delicate health. His mind was active, but chiefly upon inquiries of his own—into mechanics, natural history, or ethics—and even then he showed signs of that incapacity for sustained reading which was pathological in his mature years. He began Latin and Greek, but apparently did not get enough to be of any use, and never studied English grammar at all. Indeed, apart from a limited ability to read French, acquired later, Spencer seems never to have had the use of any foreign or ancient language. Nor does it appear that he ever studied history, literature, or philosophy, except as he was incited to occasional reading in these subjects by the requirements of his own work.

At the age of fourteen his uncle, with whom he was then living, describes him as having superior talents but lacking diligence and modesty,[1] this last judgment referring to the irrepressible contentiousness for which he was at all ages remarkable. We may think of him, then, as a bright, argumentative boy, rather disagreeably self-confident, well supplied with ideas, many of them original, regarding mathematics, natural science, and the conduct of life, but notably deficient in the foundations of traditional culture.

At seventeen Spencer got a job as a civil engineer and was

[1] *Autobiography*, i, 119.

engaged in this work four years, showing an aptitude for it which might apparently have led to distinguished success, had he not preferred to give it up and try for something more befitting the large faculties of which he was conscious.

The period from twenty-one to twenty-eight was spent in desultory study and brief experiments at making a living. He tried writing, editing, and inventing, with indifferent pecuniary success, and was employed more profitably upon a parliamentary investigation of certain railways. At one time he took an active part, on the radical side, in a political campaign. At twenty-eight he got work as sub-editor of the *London Economist*. The duties were light, leaving him ample time for other pursuits, and he was thus enabled to develop his ideas, increase his acquaintance, practice writing, and pass gradually into that career of philosophic thought and publication which occupied the remainder of his life.

The character of Spencer's sociology is so interwoven with his personal traits that I find that my best approach to it will be through an inquiry as to how far his nature and training fitted him to deal with this subject. That he possessed very great powers is too obvious to dwell upon; I shall therefore occupy myself chiefly with indicating certain limitations.

I think, then, that Spencer was not by nature especially suited to be an observer of mankind and of society. It seems clear, from his own account of himself in his *Autobiography* as well as from other witnesses, that he was rather deficient in those sympathetic qualities which are, after all, the only direct source of our knowledge of other people. A lack of tact, which he deplored but did not overcome, was accentuated by a somewhat censorious and unconciliatory way of expressing himself, both of which traits he ascribes to heredity. "The Spencers of the preceding generation," he says, "were all characterized by lack of reticence." [1] On the other side, "My mother was distinguished by extreme simple-mindedness; so much so that, unlike women in general, she was without the thought of policy in her dealings with other persons. In me these traits were

[1] *Ibid.*, ii, 329.

united." [1] "The tendency to fault-finding," he adds, "is dominant—disagreeably dominant." [2] He thought this was probably "a chief factor in the continuance of my celibate life. Readiness to see inferiorities rather than superiorities must have impeded the finding of one who attracted me in adequate degree." [3] It would be ungenerous and indeed injudicial to convict one of a defect of this delicate nature solely from his own confession; the confession is ingratiating and in some measure contradicts itself. It accords, however, with the impression one gets not only from the *Autobiography* but from the authorized life by Duncan and from contemporary anecdotes, which is that of a nature high-minded indeed and in its way fine-minded, but unsympathetic and of a schoolmasterish sort of egotism, prone to read other people lectures rather than to hear what they have to say. This native lack of touch was increased by his preoccupation with speculative ideas. "I am a bad observer of humanity in the concrete," he says, "being too much given to wandering off into the abstract." [4] He was, in short, quite the opposite in these regards of his compatriot Lord Roberts, of whom it is said:

> He had . . . an immense power of sympathetic absorption in the affairs of others. He spoke to you not only with his whole attention for the time being, he went further than that: he gave you the impression that this was the supreme moment of the day for which he had been waiting. He entered so fully, so sympathetically, into my interests, that I was tempted to expand and to confide in him even private affairs, in no way connected with the matter . . . that I had come about.[5]

Spencer's disregard of personality is curiously illustrated by his essay on "The Philosophy of Style." In this he does not appear to be interested in the fact—if indeed he perceives it at all—that at least half of style is the communication of personal attitudes, and this by means so subtle as to defy the rather mechanical analysis which he employs. The whole study, therefore, lacks penetration and, I should suppose, would be a most unsafe guide to practice.

[1] *Autobiography*, ii, 329.
[2] *Ibid.*, p. 512.
[3] *Ibid.*, p. 520.
[4] *Ibid.*, p. 461.
[5] Mortimer Menpes, *Lord Roberts*, p. 7.

This lack of insight into other minds, whether in face-to-face intercourse or through works of literature and art, was nothing less than a lack of the perceptions indispensable to any direct study of social phenomena. It was a fatal handicap.

Of the same piece with his defect of sympathy is Spencer's lack of literary and historical culture, which, for an intellectual man and a writer, was remarkable. Not only did he have no discipline of this sort, to speak of, in his youth, but in his later years his nervous trouble appears to have prohibited any sustained reading not indispensable to his work. His power of attention, limited to some two hours a day, was infringed not only by serious application but by a novel or a newspaper or even by hearing others read. For these reasons, quite sufficient and by no means discreditable to him, he had, apparently, only a perfunctory knowledge of English literature and practically none of any other. In middle life he organized for his works on sociology much historical material compiled by assistants, but by that time the bent of his mind was fixed; and, moreover, he approached this material with a set purpose and not in the disinterested attitude propitious to culture. Canon Barnett, with whom he made the Nile trip in 1879, wrote in a letter, "He is strangely ignorant of history and literature; so I should be shy of taking any of his facts," adding, "He is not interesting. There are few matters which he knows enough of, or is interested enough in, to discuss." [1] Whatever his knowledge, Spencer certainly had little or nothing of the historical sentiment, no brooding sympathy with the movements of the human spirit in the past. Anything of this sort was quite alien to his formal and positive mode of thought.

He not only lacked culture, in the usual meaning, but he set a low value on it, he almost scorned it. "Had Greece and Rome never existed," he remarks, "human life and the right conduct of it would have been in their essentials exactly what they now are: survival or death, health or disease, prosperity or adversity, happiness or misery, would have been just in the same ways determined by the adjustment or non-adjustment of actions to requirements." [2]

[1] *Canon Barnett,* by his wife, i, 230-31.
[2] *Autobiography,* ii, 43.

Is this true? I think not; Greece and Rome are of our life-blood. It seems to me, indeed, that such expressions reveal a defect which is more detrimental to truth than ignorance, namely, contempt for essential knowledge. A man may lack a certain kind of culture, as Keats lacked Greek, and yet have a sympathy and reverence which brings him close to it; but Spencer was not a man of this sort. His was not that lowly mind which enters easily all the doors of knowledge. Humility is hardly to be found in him, and his attitude toward such matters as history, literature, philosophy, and the fine arts is that of one who does not need to pore over the records of the past, but is already competent, by virtue of natural gifts and a philosophy of his own device, to instruct the world on these questions. He displays, in short, a cocksureness that does nothing to reconcile us to his insufficiency.

It is no crime in a man not to care for the loveliness of St. Mark's church at Venice—we all have our blind spots. But what shall we say of one who, with no title to competence, assumes to set aside the judgment of time and to pronounce, after a page of rather fatuous comment, that it is "not precious æsthetically considered"?[1] Are not such judgments bold with the boldness of the man who declares that the earth is flat, because it looks so to him? And this is typical of Spencer's attitude not only toward art but toward many other things of which he knew equally little. It argues, I think, a certain incomprehension of the nature of phenomena of this sort, and of the conditions necessary to their appreciation. Works of literature and the various arts have their being in a traditional organism of thought and expression, and there is no hope of participating fully in their spirit except as one earns a membership in that organism. This is done by sympathy, by open-mindedness, and by reverent study of works which promise to repay such study.

I do not mean that Spencer had a mind wholly insensible to the fine arts. He enjoyed and even practiced music, for example, had considerable skill in drawing, and liked to read aloud the poetry of Shelley. I mean that he seems to have no feeling for the traditional, social, and personal elements that

[1] *Autobiography*, ii, pp. 407-8.

enter so largely into art and literature and therefore no sense of the need of culture and sympathy in passing judgment upon them.

If our philosopher's defects of nature and education were such as I have indicated, it will not be surprising if we find that he lacked direct and authentic perception of the structure and movement of human life, and that he conceived these phenomena almost wholly by analogy. The organic wholes of the social order are mental facts of much the same nature as personality, and much the same kind of sympathetic imagination is needed to grasp them. This Spencer did not have, and accordingly his conceptions, however bold and ingenious, are, in my opinion, not properly sociological at all.

If there is in Spencer one dominant trait, engendering both his qualities and his defects, it is without doubt the energy of his speculative impulse. This was not only immensely strong, and bold but was combined in a signal degree with the need to think exhaustively and in concrete terms. It thus impelled him not only to conceive a vast scheme of cosmic principles but to develop these with apparent consistency in every department of nature, fortifying each detail by clear statement and a convincing array of facts. This chiefly gave him his great vogue with inquiring young men; he gratified two needs of every sound mind: to think largely and to think in definitely conceivable forms. Never vague or merely abstract, he saw in detail what he saw at all. No doubt, also, his great pretensions and his rejection of traditional knowledge contributed to his acceptation by confirming the inquiring young man in his own self-conceit.

So far as I am able to judge, Spencer had great gifts as an observer of inanimate nature, and only his exorbitant speculative trend prevented his achieving more important results than he did. His questioning of accepted ideas, his persistency, his ingenuity and manual skill (much greater than that of Darwin) were all valuable traits. What he mainly lacked as a natural scientist, I imagine, was again humility. He was inclined to domineer over his facts, instead of listening with open mind to what they had to say.

Spencer claimed that he had "equal proclivities towards

analysis and synthesis." This is true, in the sense that he had an equal need to see his conceptions in large and in detail, but I think that both his analysis and his synthesis were *a priori,* that in both the disposition to work out preconceived ideas is far more active than disinterested curiosity. Indeed, when he once gets to work, especially upon social material, the latter is hardly discernible. He himself regrets that he was apt "to be enslaved by a plan once formed" [1] and to slur over difficulties.[2]

Here, of course, is his most obvious inferiority to Darwin. While he may have surveyed almost as many facts, he did so in a wholly different spirit. Darwin's great gift, I suppose, was the combination of a humble and tireless curiosity with a generalizing power vast, indeed, but by no means domineering. He collected facts and drew a theory from them, while Spencer spun a theory from any material he happened to have and collected facts to illustrate it. Hence, in spite of his ingenuity, he was far less original, less solid, less truly the man of science than his contemporary. The inquiring young man will not long remain content with Spencer if he has any gift for direct observation. He will presently discover that the light which seems so clear is not daylight but the artificial illumination of a theory; that the array of facts are but illustrations of the theory; and that the assertions do not stand the test of real life.

The conception of organic process which Spencer gave most of his life to elaborating remains meager. It grows longer and longer but never fills out with real flesh and blood. Where will you find in him any of those illuminating flashes that show a conception vividly and as a whole? It is all detail and formula, never a revelation.

Nothing could have been more odious to him than the suggestion that his work belonged, psychologically, in a class with that of the systematizers of theology—Thomas Aquinas, perhaps, or John Calvin—rather than with the true men of science. But would there not be some truth in such a suggestion?

Turning now from Spencer's talent to his works, there is perhaps nothing more fundamental for our purpose than his social

[1] *Autobiography,* ii, 215. [2] *Ibid.,* i, 452.

psychology. This is found in those four chapters of his *Principles of Psychology* which treat of "Sociality and Sympathy," "Egoistic Sentiments," "Ego-altruistic Sentiments," and "Altruistic Sentiments." The *Principles of Psychology* was first published when Spencer was thirty-five, costing him such labor that he ascribes to it in great part the impaired health from which he suffered thereafter. It did not at that time, however, include any social psychology, but was concerned wholly with the development of the individual mind. Apparently he did not perceive the need of a social psychology at all until he began some years later to work out his sociology. Then, having, as he says "to follow out Evolution under those higher forms which societies present," he was led to discuss "the special psychology of Man considered as the unit of which societies are composed." [1] The idea of treating the subject was, then, an afterthought conceived rather late in life and carried out in a supplementary part of his *Psychology* called "Corollaries," published in the second edition of that work, which appeared when the author was fifty-two years old. It is not strange that his discussion is somewhat perfunctory and involves no change from his previous modes of thought.

Speaking summarily, I may say that he explains the social sentiments by their utility, by conscious and unconscious adaptation to the conditions of life, and by the cumulative inheritance of acquired mental traits. Natural selection is included but not much emphasized; it is hardly essential to the argument. We are shown that the individual is sympathetic because sympathy has been useful and habitual to the race in the past. Transmitted by heredity and increased by use it is enabled, with the aid of the representative powers of the mind, to unite with instinct in forming social sentiments. These may be ego-altruistic (so called because they involve both a sense of one's self and a reference to the state of mind of others, like the love of approbation); or they may be wholly altruistic, like a generosity which seeks no recognition, or like a disinterested sense of justice. All sentiments, however, are primarily egoistic, according to Spencer, and become altruistic when re-

[1] *Principles of Psychology*, ii, 508.

ferred to others. "The altruistic feelings," he says, "are all sympathetic excitements of egoistic feelings."

Let me first point out that this phraseology of egoism and altruism marks an individualistic conception; that is, it makes the whole matter one of the interplay of separate units rather than of collective growth. A sentiment grows up in one person and may be referred to another by sympathy: there is no idea of *a continuing social life, having an organization and history of its own, in which sentiments are generally developed, and from which they are derived by the individual.* It cannot be said that Spencer's treatment excludes such an idea, but his failure to develop it, here or elsewhere, shows that it had no considerable part in his thought. And yet it is the central conception of any real sociology, since any science of life must have a distinct life-process with which it is concerned.

A sociological view, I think, would be that the higher sentiments are in general neither egoistic nor altruistic as regards their source, but just social, derived, that is, from the stream of an organic common life. It is, for example, an incorrect view of the sense of justice to say that we first develop it regarding ourselves and then transfer it by sympathy to others. Our sentiments of justice have been worked out by society in the past and come to us primarily from the social environment and tradition, their reference to myself or to you being secondary. We acquire them just as we do the meaning of the word "justice," that is, we find the idea or sentiment already organized for us in the current of history, and assimilate it by the aid of conversation and literature, although it must get flesh and blood, as it were, from our own experience. The social tradition supplies the pattern which the individual fills out and colors in a more or less original manner. The proof is the established fact that the customs or mores of the group can make almost anything appear to the individual as just or unjust. Spencer's view is scarcely different from that of one who should maintain that the idea of justice is created anew in each generation by heredity and sympathy, failing to see that it also represents the accumulated wisdom of the past transmitted through language. His process is not social but biological and individual.

The essential differences between present social psychology, as I understand it, and the conception of Spencer may be otherwise stated as follows: We now believe that the individual is born with decisive but quite rudimentary capacities and tendencies, owing little or nothing to direct inheritance of the effects of use. For the development of these into a human personality he is wholly dependent upon a social environment which comes down from the past through an organic social process. This social process cannot be inferred from individual psychology, much less from heredity; it must be studied directly and is the principal subject of sociology.[1] It absorbs individuals into its life, conforming them to its requirements and at the same time developing their individuality. There is no general opposition between the individual and the social whole; they are complementary and work together to carry on the historical organism. Neither is there any general opposition between social environment and heredity; they also are complementary, working together to carry on a human whole which is social in one aspect and biological in another. Spencer, on the other hand, has little perception of a *social* organism continuous with the past. His organism, so far as he has one, is biological in its process, transmitted to the individual by the direct inheritance of mental states created by use. No doubt, as he sees the matter, the individuals thus generated unite into a differentiated and co-ordinated society, but this is conceived almost as if it were continually reproduced from biological roots, like the annual foliage of a perennial herb. Its historical continuity, momentum, and abundance of content, its power to mold individuals as well as to be molded by them, is not clearly seen. And this is true of all Spencer's sociology. It is biological-individualistic, the biology being of a type involving use-inheritance, and the individualism of a mechanical sort quite inadequate to embrace human personality.

It is a common impression that Spencer emphasized the social

[1] Much that has recently been published regarding the social working of instinct shows little improvement upon Spencer in this regard. I mean that it proceeds from an analysis of instinct directly to social conclusions (sometimes of the most sweeping character), without the least direct study of the social process. Even the instinct studied is usually subhuman, that of man being inferred from analogy.

order at the expense of the individual person. I would rather say that he had little conception either of a social order, properly speaking, or of persons as members of that order, and consequently never seriously confronted the problem of their relation. Such questions, for example, as that of the precise nature and value of leadership are not worked out by him, because they belong in that region of true, as distinguished from analogical, sociology which he scarcely entered.[1]

At least one critic, Mr. J. M. Robertson, in his *Modern Humanists,* has pointed out that Spencer's thought about society shows two distinct currents, separate in their origin and appearing to other minds irreconcilable. One apparently came from the intellectual atmosphere surrounding his youth and early manhood, before he became in any sense an evolutionist. It is essentially static, individualistic, hedonistic; and is otherwise remarkable for the doctrinaire thoroughness with which he worked it out and applied it to questions of the day, often, it would seem, in defiance of sound practical judgment. The other current is evolutionary, beginning apparently when he was about twenty in the reading of Lyell's *Geology* (where he found an account of the views of Lamarck), gradually gaining upon him as he grew older, greatly increased and modified by the publication of the *Origin of Species,* when he was about forty, but never so possessing his mind as to solve his thought into one consistent whole. He remained to the end partly of the old time and partly of the new, asserting both tendencies with equal conviction, unaware of any incompatibility, and never becoming an evolutionist in the sense that most men are who have grown up in Darwinism.

Among the works in which the first influence is ascendent are *Social Statics*—his first book, published when he was thirty—the *Principles of Ethics* and *Man versus the State,* the two latter appearing late in his life. In these his leading conceptions are pre-Darwinian, in the sense that they have proved incapable of survival after Darwinism has had time to develop its social implications. The point of view is individualistic and the practical policy one of extreme *laissez faire,* as opposed

[1] Compare the remarks on the relation of the individual to society in the *Autobiography,* ii, 543.

to social control. The process is conceived not as continuously evolutionary but as tending toward an ideal condition of moving equilibrium, in which the relations of men to one another will be morally adjusted and we shall all be as happy as we can reasonably desire. To this conception he adhered at all times when he was dealing with questions of personal conduct or social policy.

I do not know that it would be worth while to argue at length that these ideas are unevolutionary. The most convincing argument is that they have not in fact been able to endure as a part of evolutionary thought. It is more and more recognized, I think, that while the organic view of life implied in Darwinism is consistent with very great emphasis upon individuality, it also involves an increasing consciousness and self-direction in the process as a whole, irreconcilable with the drastic reduction of state functions advocated by Spencer. And I am not aware that the idea of a coming equilibrium of human relations, in the anticipation of which we can find a code of conduct, has any important following at the present time. It is felt to be untenable.

His ideas on general evolution find their first expression in an essay called *Progress: Its Law and Cause,* published in 1857, and are finally elaborated in *First Principles,* which appeared in 1862, when he was forty-two years old. The second part of *First Principles,* on the Knowable, contains matter which philosophic students of sociology may still find worth while, and it is perhaps the only part of Spencer which I can recommend to such with any confidence. His method is to take elementary processes, such as differentiation and co-ordination of parts and functions, and set them forth with a great array of facts from the inorganic, the vegetable, and the animal worlds, and finally from the social. This had a great effect upon me in the eighteen-eighties by showing the life of man upon earth as one of progressive organization and so giving me an animating and assuring perspective. Although I now think that the view thus revealed is superficial, nevertheless it was worth seeing then and I see no reason why it should not be so now.

Regarded more closely, *First Principles* shows those defects of which I have spoken. Human life is perceived not directly

but through mechanical analogies. The higher and more distinctively human part of it is hardly perceived at all; there is, for example, no discussion of the growth of rational social guidance as a part of progress. The thought is mechanized to a degree almost incredible to one who enters its stifling atmosphere from the world out of doors.

I almost hesitate to quote Spencer's famous formula of evolution lest I may appear to be ridiculing him. It has a quaint sound now, but as he himself regarded it as quintessential we are hardly at liberty to pass it by. It runs, then, as follows:

> Evolution is an integration of matter and concomitant dissipation of motion; during which the matter passes from an indefinite, incoherent homogeneity to a definite, coherent heterogeneity; and during which the contained motion undergoes a parallel transformation.[1]

Now the problem of evolution is the problem of life; and it is safe to say that if in the future it is found possible to sum up the process of life in a formula it will not be a formula of this kind. Life must be summed up in terms of life, not translated into another language. Least of all is such a formula adequate to human life. You can never compress reason and beauty and hope and fellowship and the organic being of communities and nations into differentiations, coherences, and heterogeneities. These terms may be applicable to human life, just as you can measure a man in inches and pounds, but they can never be the essential and characteristic truth about it. There is more light and more good sense in the simple statement of Comte that progress "consists in educing, more and more, the characteristic faculties of humanity, in comparison with those of animality."

Of Spencer's volumes on the *Principles of Sociology* I need say little, not that they are unimportant but because, being a logical development of his *First Principles,* they do not offer anything fundamentally different. They are, in general, what one might expect; and the value one sets upon them will vary with one's estimate of the point of view and method. The material was collected under Spencer's direction by assistants, usu-

[1] *First Principles,* chap. xvii.

ally, I think, with a definite plan as to what he meant to get out of it. It was rather an amassing of illustrations than research, though fresh ideas often occurred to him in the process. If we are content with a vast array of facts, sequently arranged and clearly interpreted in accordance with large but somewhat mechanical conceptions, we shall regard these as important works; if we think that human insight is a *sine qua non* they will seem little more than a desert, the more forbidding the more there is of it.

Parts I and II are of a general character, called respectively "Data" and "Inductions" of sociology. The remaining parts deal with special institutions—domestic, ceremonial, political, ecclesiastical, professional, and industrial. After three brief introductory chapters discussing the nature of social or superorganic evolution, the classification of the factors, and the influence of climate, geographical features, flora, and fauna, Spencer devotes the bulk of Part I to the nature of primitive man, and chiefly to the genesis of his religious ideas. Although his knowledge of this field was necessarily secondhand, the vigor and ingenuity of his mind enabled him here as elsewhere to advance views which specialists regard with respect.

Part II is a discussion of the organic character of society, and therefore epitomizes the nature and limitations of his sociological thought. Instead of being a direct and searching analysis of the process of human life, it is wholly analogical and hence wholly superficial. Not only is the proposition "Society is an organism" sustained by biological comparisons, but the whole part, of some one hundred and fifty pages, is given to such comparisons. Whatever is said about society is said under the evident domination of conceptions derived from another order of phenomena; and that order is rather the mechanical than the biological, since his biology is itself rather mechanical than vital. The terms of his summing up are similar to those of his general formula of evolution, and the whole part adds nothing of much importance to what we get from his *First Principles*. I would not object to the use of biological analogy as a source of nomenclature and framework; every new growth of knowledge, I suppose, has to use the lan-

guage of the old. But surely the material itself, the observation and conception, should be essentially direct and fresh, and with Spencer it is not so.

The elaborate discussion of particular institutions that follows is always clear, always vigorous, always ingenious, and always subject to the limitations I have pointed out. In some cases, as in his treatment of the opposition between militarism and industrialism, he sets forth practical truth of great moment, but never, I think, without a certain superficiality inseparable from his method.

Descriptive Sociology is a publication, in eight atlas-like volumes, of material compiled by his assistants, primarily for other works, and giving historical and descriptive data regarding the principal savage and barbarous peoples—African, Asiatic, and American—and also regarding the Hebrews and Phoenicians, the French, and the English. The facts and references are arranged in parallel columns under appropriate captions, so that it is easy to find what one seeks. I have made some use of these works, and it is my impression that they are much less known than they deserve to be. For students making comparative studies covering a wide range of societies they should be of much service. They were published by subscription and represent on Spencer's part a large pecuniary sacrifice to scientific ideals. When their publication ceased, he estimated his net loss at about £4,000.

The two strongest impressions I receive on re-reading parts of Spencer are that of the fixity of his limitations and that of the abundance of his mind within those limitations. Although, if I am right, his way of seeing and thinking was not sociological, it was large, keen-edged, and propelled by an intellectual passion almost sublime. Though commonly described as an infidel, his work was a signal act of faith. Never timid or half-hearted, he stained with his life-blood every detail of his vast scheme and defended it as a mother defends her child. He spent his whole life in the elucidation and propagation of truth as he saw it, devoting without question his spirit and all its instruments to this supreme object. Some of his chief defects were virtues in excess; as he might have been more of

a man of science had he been less ardent as a philosopher and moralist. That he was a moralist, somewhat dogmatic, but sincere and ready to make sacrifices, there can be no doubt. He shone also as a critic of easy-going conventions. Bold, ingenious, iconoclastic, pungent in illustration, he loved to demolish shams and did it extremely well. He raked up and burned much theological and other rubbish, earning the gratitude of all the liberal world.

If I have seemed to depreciate him it is perhaps because Spencer set his claims so high that any attempt to estimate them almost inevitably takes the form of lowering his own mark. But, when all is said, he remains a man of extraordinary powers and vast influence upon the thought of his day, if not altogether the equal mate of Darwin that we once supposed him to be.

NOW AND THEN

VIII

NOW AND THEN [1]

It has occurred to me that it might not be inappropriate in an elderly sociologist to offer some impressions regarding the state of the subject when he began to study it, contrasted with that at the present time, and perhaps to draw some inferences regarding the nature and value of what has been accomplished during the interval.

If we go back, then, to about 1890 we find that for most American students, sociology was to be sought in the works of Herbert Spencer, supplemented, perhaps, by the earlier writings of Lester F. Ward, although the latter were very little known.

I will not attempt at this time to estimate the contribution of Herbert Spencer—he certainly had a vast and on the whole salutary influence—but I will call attention to one aspect of his work which is pertinent to what I have to say. His sociological theories, it seems to me, were not well suited to be the starting point for detailed scientific investigation, on account of the somewhat remote and analogical character of their relation to actual life. They did not spring primarily from social observation; they sprang rather from the wish to extend over the social field conceptions drawn from physics and biology. As they were not tools forged to deal with social facts they could not readily be used for the purpose by other students.

I take it, then, that the younger generation of students at that time felt, vaguely perhaps, that the right start had not been made, that there was no practical basis for applying the evolutionary ideas of the time to human life, and that it still remained to build a satisfactory frame-work upon which the growth of a modern social science could proceed.

[1] This brief paper consists of remarks made at the annual banquet of the American Sociological Society, held in Washington, December 1923, and published in *Journal of Applied Sociology,* VIII, No. 5 (May-June, 1924), pp. 259-62.

It was natural, therefore, that this second generation should occupy themselves for the most part with somewhat extensive studies, rather than intensive, at the same time endeavoring, by a first-hand and disinterested study of facts, to ensure that their generalizations should have the character of working scientific hypotheses.

Now it is my suggestion that this has, on the whole, been the fact, that the principle endeavor and achievement of the generation to which I belong has been to build up a framework of workable hypotheses, to cover the field of sociology with a network of provisional generalizations, not firmly established but sufficiently supported by fact to invite verification or modification by more limited and intensive studies.

Of course this was too big a task to do completely or finally, but we felt that it had to be done, because the whole subject was so organically connected that our work could not safely advance far at any one point unless it was supported by a corresponding advance all along the line.

My point is, you see, that thoroughness of detailed investigation was not at that time a practicable ideal, because if attempted, it would have proved unsound for lack of sound general premises to base it on. We all feel, I think, that a good deal of detailed work has actually been done, by biologists or others not in touch with the progress of sociology, which is nearly or quite worthless because not soundly based.

Coming then to what I may call the third generation of American sociologists, the student of to-day has ample reason to find fault with the work of his elders if he judges it from the point of view of that thorough working out and verification of each detail which is one of the tests of scientific method. At the same time he has reason, perhaps, to be thankful that they did not devote themselves to precisely that aspect of the scientific ideal at a time when the more urgent need was to formulate a system of problems. As it is we have a literature which leads the student directly into the maze of social fact which surrounds him and offers him clues which he may follow until he is ready to drop them and make a trail of his own.

At the present time no man with any gift for research need lack a problem, and in working out that problem he may have

the assurance that he is one of many who are working co-operatively and are prepared to appreciate and fulfill one another's endeavors. This co-operative situation is due largely to the possession of a common background of what I may call factual ideas, derived mainly from a study of the contemporary literature of their subject.

Concerning the future I ought not perhaps to speak. The rising generation is the best judge as to what its task is. It would seem, however, if what I have said is sound, that not much of its best energies is likely to get into general works on the principles of sociology. Text-books we shall no doubt have—a constant flow of them—and that is well because a teacher can be most effective when he uses his own book. But I conceive that original work is likely to take the direction of more limited but thorough studies. This work will be theoretical—I for one am not interested in any work that is not—but the theory will spring from a more circumscribed and penetrating study of fact. There is room for many such books, and, if they are really well done, a technical public ready to appreciate them.

Let me ask, finally, whether the time has not come for a more stringent criticism of our product? We elders have "got by" and now we would like to raise the standard. When everybody was trying to do everything we were all so superficial that no one ventured to cast stones at any one else. But the new generation will not tolerate "arm-chair sociology." There is altogether too much foundation for the impression prevailing in other fields that work in sociology is hasty and pretentious. Let us have no journalism, but insist that whatever a man's subject, or whatever his conception of scientific method, he give us no work that is not, in one way or another, a thoroughly good job.

THE ROOTS OF SOCIAL KNOWLEDGE

IX

THE ROOTS OF SOCIAL KNOWLEDGE[1]

If we are to gain a large view of knowledge we should, it seems to me, consider it genetically by tracing it to its sources in human nature and human history. Knowledge is, after all, a phase of higher organic evolution, and has apparently been developed for the sake of its function in giving us adjustment to, and power over, the conditions under which we live. If these conditions present any fundamental division in kind we should expect that the capacities of the human mind and the knowledge based upon these capacities would show a corresponding division.

In fact, the conditions with which the mind has to deal, and has had to deal ever since life began to be human, divide themselves rather sharply into two kinds: the material, on the one hand, and the human or social, on the other. We have always needed to understand both things and persons, and the most primitive savage, though he may occasionally confuse them, is quite aware that they are different and must be understood in different ways.

This division lies as deep as anything in our experience, and it corresponds to a like division in our mental apparatus. For the external contacts we have our various senses, and also, in recent times, the extension and refinement of these through aptly named "instruments of precision" which have made the exact sciences possible. For the internal contacts we have a vast and obscure outfit of human susceptibilities, known as instincts, sentiments, emotions, drives, and the like, quite as firmly grounded in the evolutionary process as the senses, capable of extension and refinement in ways of their own, and

[1] This paper was read as the Presidential Address before the Michigan Academy of Science, Arts, and Letters, March 31, 1926, at Ann Arbor and was published in *The American Journal of Sociology*, XXXII, No. 1 (July, 1926), pp. 59-79.

giving rise to a kind of knowledge that we recognize as peculiarly human and social.

You will say, perhaps, that all knowledge, whether of things or of men, comes to us by the aid of the senses, and that the division I assert is therefore imaginary. It is true that all knowledge calls for sense activity of some sort or degree, but the function of this activity in material or spatial knowledge, on the one hand, and in human or social knowledge, on the other, is quite different. In dealing with things sensation is the main source of the raw material which the mind works up into knowledge; in dealing with men it serves chiefly as a means of communication, as an inlet for symbols which awaken a complex inner life not primarily sensuous at all. In the one case it is our principal instrument; in the other only ancillary. When I meet a stranger and judge by his face, bearing, and voice that he is a kindly and cultured man, and by his words perceive, in a measure, the working of his mind, the sensuous images are like the starting mechanism of an automobile; they set at work processes more complicated and potent than themselves, of which, mainly, the resulting knowledge consists.

For our present purpose we may, then, distinguish two sorts of knowledge: one, the development of sense contacts into knowledge of things, including its refinement into mensurative science. This I call spatial or material knowledge. The second is developed from contact with the minds of other men, through communication, which sets going a process of thought and sentiment similar to theirs and enables us to understand them by sharing their states of mind. This I call personal or social knowledge. It might also be described as sympathetic, or, in its more active forms, as dramatic, since it is apt to consist of a visualization of behavior accompanied by imagination of corresponding mental processes.

There is nothing mysterious or unfamiliar about social knowledge, except as we may be unaccustomed to recognize and think about it. It is quite as early to appear in the child and in the race as is material knowledge, quite as useful in the everyday affairs of life, and quite as universally accepted as real by common sense. If there are men of science who do not see that it is something distinct in kind, but are inclined

to regard it as spatial knowledge in an imperfect state, destined in time to be perfected by more delicate measurements, this is doubtless because they approach the matter with the *a priori* conceptions appropriate to physical research. In relation to social phenomena the merely spatial conception of knowledge indicates an abstract way of thinking that does not envisage the facts. It is not, in this field, in accord with common sense. All of us know that the essential things in our relation to other men are not subject to numerical measurement.

I trust it will not be supposed that I am advocating any metaphysical dualism between mind and matter. It is not necessary, for my present purpose, to take a side on that question, but I have myself no doubt that all the phenomena connected with social knowledge, including introspection, have physical concomitants in the brain and nervous system. In theory these physical facts are capable of physical measurement, but when we consider their minuteness and inaccessibility, the likelihood of their being measured in a spatial sense seems quite remote. We must get at them, in practice, through consciousness and through overt behavior.

Spatial knowledge, we know, has been extended and refined by processes of measurement, calculation, and inference, and has given rise to exact science. It is generally agreed that knowledge of this sort is verifiable and cumulative, making possible that ever growing structure of ascertained fact which is among the proudest of human achievements. It may be worth while to consider for a moment to what this peculiarly verifiable character is owing.

It is owing, I take it, to the fact that this sort of knowledge consists essentially in the measurement of one material thing in terms of another, man, with his senses and his reason, serving only as a mediator between them. If, then, a group of investigators can agree upon a technique of measurement they may go ahead, achieving results and passing them on from man to man and from generation to generation, without concerning themselves with the vagaries of human nature and social life. This technical agreement is found possible, and the accumulation of knowledge goes on. But we must, of course, discriminate between the immediate results of measurement and the

body of hypothesis and theory which is constantly arising out of them. Science gives us fact out of which the intellect endeavors to build truth. And what we judge to be true, even in the spatial sciences, is largely a social matter dependent upon the general movement of thought. A group of scientific men, familiar with previous investigation in a given field and armed with a sound technique, is the best instrument we have for the pursuit of truth, and is one of the most remarkable products of our social system; yet it is, of course, far from infallible. All groups have a body of beliefs which are taken for granted merely because no one disputes them, and which often turn out to be illusions. Assent is induced by conforming influences not wholly different from those operating in religion or politics. In short, no group is a trustworthy critic of its own conclusions, and only the test of time and of exacting criticism from wholly different points of view can determine the value of its contribution. There have been many groups, made up of very intelligent men working devotedly and in full assurance of being on the right track, who are now seen to have been astray. And although scientific methods are no doubt improved, it would be fatuous to suppose that they are a guaranty against group error. Some of the teachings of science are permanent truth, but only time reveals which they are.

The practical success of spatial science in enabling us to predict, and even to control, the behavior of the material world about us has given it vast prestige and brought about a feeling that the more all our mental processes are like it the more perfect they will become. A conception of what social science ought to be has accordingly grown up and gained wide vogue which is based rather upon analogy than upon scrutiny of the conditions with which we have to deal. Let us return, then, to the sources of our knowledge of mankind, and consider for a moment the development of this sort of knowledge in a child. He comes into the human world already provided with a vast complex of innate capacity for life peculiar to the human race and embracing in its potential content those processes of social emotion, sentiment, and intelligence in which men find their chief interests and motives. All this is an outcome of evolution, highly practical, the very stuff that has made man the

most puissant of animals, and it has, no doubt, the same physical reality as any other nervous or mental processes. Regarding the exact content of this inborn raw material of personal and social life there has been much discussion, into which, fortunately, we need not enter. Some say that it includes quite definitely organized mechanisms, similar to the instincts of the lower animals; others, that the inborn mechanisms of man are small and indeterminate, taking on organization only under the stimulus of a particular kind of life. However this may be, no one can doubt that we are born with an inchoate world of mental capacity, existing physically as a mass of brain and nerve complexes, which requires as the main condition of its growth an interchange of stimulation with similar complexes existing in other personal organisms.

The process by which a distinctively human or social mind and a corresponding type of knowledge grows up within us was first expounded at some length in 1895 by James Mark Baldwin, who called it "the dialectic of personal growth." It resembles a game of tennis in that no one can play it alone; you must have another on the opposite side of the net to return the ball. From earliest infancy our life is passed in eager response to incitements that reach us through the expressive behavior of other people, through facial expression, gesture, spoken words, writing, printing, painting, sculpture, the symbols of science, and the mechanic arts. Every response we make is a step in our education, teaching us to act, to think, and to feel a little more humanly. Our brain and nerve complexes develop in the sense of our social surroundings. And at the same time our consciousness takes account of this inward experience and proceeds to ascribe it to other people in similar conditions. Thus by a single process we increase our understanding of persons, of society, and of ourselves. When you play golf you not only acquire spatial knowledge in the shape of a certain muscular skill, but also social knowledge through learning the pride one feels when he makes a long drive, or the humiliation when he tops the ball and gets into the creek. As you see another man do these things you repeat, sympathetically, your own inner response on former occasions and ascribe it to him. A new reach of human experience is opened to you

and you enlarge your understanding of men. And you extend your knowledge of domestic life, of letters, arts, and sciences in much the same way. Consider scientific work in the laboratory and in the field. Does it give only material knowledge of the behavior of *things* in test tubes, of the look and feel of strata, of the habits of fishes, or does it also teach you to understand chemists, geologists, and zoölogists as *men,* to participate in a phase of human life, share its ideals, and learn its social methods? And is not the latter knowledge quite as important to the man of science as the former? Able men in every field excel, as a rule, in human as well as technical knowledge, because both are the fruit of a richly developed mind, and both must also be cultivated as instruments of success.

If the distinctive trait of spatial knowledge is that it is mensurative, that of social knowledge is, perhaps, that it is dramatic. As the former may be resolved into distinctions among our sensations, and hence among the material objects that condition those sensations, so the latter is based ultimately on perceptions of the inter-communicating behavior of men, and experience of the processes of mind that go with it. What you know about a man consists, in part, of flashes of vision as to what he would do in particular situations, how he would look, speak and move; it is by such flashes that you judge whether he is brave or a coward, hasty or deliberate, honest or false, kind or cruel, and so on. It also consists of inner sentiments which you yourself feel in some degree when you think of him in these situations, ascribing them to him. It is these latter sympathetic elements which make the difference between our knowledge of a man and our knowledge of a horse or a dog. The latter is almost wholly external or behavioristic, although those who associate intimately with them may acquire some measure of true sympathy. We know animals mostly as a peculiarly lively kind of thing. On the other hand, although our knowledge of people is likewise behavioristic, it has no penetration, no distinctively human insight, unless it is sympathetic also.

There is, no doubt, a way of knowing people with whom we do not sympathize which is essentially external or animal in character. An example of this is the practical but wholly behavioristic knowledge that men of much sexual experience

sometimes have of women, or women of men—something that involves no true participation in thought and feeling. The more behavior in the other sex is instinctively sexual, the more our understanding of it is apt to be external rather than sympathetic. Or, to put it rather coarsely, a man sometimes understands a woman as he does a horse; not by sharing her psychic processes, but by watching what she does. There is, in fact, a complete series in our knowledge of persons, from the purely external, like our knowledge of babies, of idiots, of the wildly insane, up through all grades to the completely internal or sympathetic, as when, in reading a meditative writer like Marcus Aurelius, we know his consciousness and nothing else. For the most part, however, human knowledge is both behavioristic and sympathetic: the perception or imagination of the external trait is accompanied by sympathy with the feeling, sentiment, or idea that goes with it.

This is also the process by which we come to understand the meaning of a word, and through such understanding make ourselves at home in that vast realm of meanings to which words are the key. We may know words as mere behavior, as when a man speaks to us in a strange tongue, but in that case they do not admit us to the realm of meanings. To have human value the word and the inner experience that interprets it must go together.

In short, we learn to know human life outwardly and inwardly at the same time and by a single process continuous from infancy.

Adopting a convenient and popular term, I will call the individual human mind, including all these socially developed sentiments and understandings, the *mental-social complex*. I hope by the use of this colorless expression to escape from the traditional implications that obscure such terms as mind, consciousness, spirit, and soul.[1] About this, whatever we call it, the question of the nature and possibilities of social knowledge centers. It is our supreme gift; but for that very reason, because all the deep things of life are in it, it is the part of us about which we know least, and is least amenable to precise

[1] In a similar way the "group mind," that is, a collective view of individual complexes communicating with, and influencing, one another, might be called the social-mental complex.

treatment. Can it be made available for science, or shall we try in some way to dodge it, or cancel it out, as the physical scientist does when he requires that the ideas about nature which come from it shall be verified by nature herself through physical measurement? The trouble with any such plan would seem to be that in human life the mental-social complex *is* nature. It is the very heart of what we seek to describe and make intelligible. It cannot be dodged without dodging life itself.

Suppose, for example, you secure, by a series of mental tests, detailed knowledge of what a certain person does in various situations. This may be of great value; I expect important results from such studies; but after all they cannot enable you to know the person as a living whole. The social man is something more than the sum of standardized acts, no matter how many or how well chosen. You can grasp him only by the understanding and synthetic power of your own mental complex, without which any knowledge you may gain from behavior tests must remain superficial and unintelligent. Is it not a somewhat equivocal use of terms when we talk of measuring intelligence or personality? What we measure is the performance of standardized operations. To pass from these to the organic whole of intelligence or personality is always a difficult and fallible work of the constructive imagination.

Many people, agreeing perhaps with what I have said about the ultimate difference in kind between spatial and social knowledge, will hold that just because of this difference anything like social science is impossible. While spatial knowledge is precise and communicable, and hence cumulative, the dramatic and intuitive perceptions that underlie social knowledge are so individual, so subjective, that we cannot expect that men will be able to agree upon them or to build them up into an increasing structure of ascertained truth.

This is, in fact, a formidable difficulty which enthusiasts for exact social science are apt to ignore. I may say at once that I do not look for any rapid growth of science that is profound, as regards its penetration into human life, and at the same time exact and indisputable. There is a difference in kind here which it would be fatuous to overlook.

Regarding subjectivity, I may say that all knowledge is subjective in one sense: in the sense, namely, that it is mental, not the external thing, but a construct of the mind. Even the simplest perceptions of form or extent, much more the exact perceptions of science, far from being mere physical data, are the outcome of an extended process of education, interpretation, and social evolution. Your so-called physical sciences are, after all, part of the social heritage and creatures of the mental-social complex. In so far, then, spatial knowledge and social knowledge are on the same footing.

The question of more or less subjectivity, as among different kinds of knowledge, I take to be one of more or less agreement in the elementary perceptions. If the phenomena can be observed and described in such a way as to command the assent of all intelligent men, without regard to theory or to bias of any sort, then the factual basis of knowledge acquires that independence of particular minds which we call objectivity. A yardstick is objective because it provides an undisputed method of reaching agreement as to certain spatial relations. Professor Einstein has shown, I believe, that this objectivity is not absolute, but it suffices for most purposes of spatial science. Strictly speaking, there are no yardsticks in social knowledge, no elementary perceptions of distinctively social facts that are so alike in all men, and can be so precisely communicated, that they supply an unquestionable means of description and measurement. I say distinctively social facts, because there are many facts commonly regarded as social which are also material events, like marriages, and as such can be precisely observed and enumerated. But the distinctively social phenomena connected with marriage are inward and mental, such as the affection and desire of the parties, pecuniary considerations, their plans for setting up a household, and so on. These also can be known and communicated, but not with such precise agreement among observers as to make decisive measurement possible.

You may say that while it is true that the mental-social phenomena cannot be observed directly with much precision, they express themselves in behavior, which is tangible and which we may hope eventually to record and measure with great exact-

ness. Even our inmost thoughts and feelings take form in the symbols of communication, in gesture, voice, words, and the written symbols which are preserved unchanged for ages. All this is true and much to the point: I am a behaviorist as far as I think I can be without being a fanatic. But we must not forget, as behaviorists sometimes appear to do, that the symbol is nothing in itself, but only a convenient means of developing, imparting, and recording a meaning, and that meanings are a product of the mental-social complex and known to us only through consciousness. Reliance upon symbols, therefore, in no way releases us from the difficulty arising from the unmeasurable nature of our elementary social perceptions. We can record behavior and handle the record by statistics, but I see no way of avoiding the ultimate question, What does it mean?

And how about introspection? Does not the kind of perception which I inculcate involve this disreputable practice, and if so, is it not thereby hopelessly vitiated?

The word "introspection," as commonly used, suggests a philosopher exploring his inner consciousness in more or less complete abstraction from the ordinary functions of life. While this method may have its uses it is thought to have been more relied upon in the past than it deserves. Let us observe men under more normal conditions, and preferably, it is urged, through their actions rather than through their supposed thoughts.

But just what, after all, is introspection? It is not merely the philosophic introversion I have indicated, but takes various forms, some of which, in everyday use by all of us, are indispensable to any real knowledge of the minds of other men.

That whole process of the social growth of the mind which I have mentioned involves elements introspective in character. We come to know about other people and about ourselves by watching not only the interplay of action, but also that of thought and feeling. As we perceive and remember sensuous images of gesture, voice, and facial expression, so, at the same time, we record the movements of thought and feeling in our consciousness, ascribe similar movements to others, and so gain an insight into their minds. We are not, for the most part, re-

flectively aware of this, but we do it and the result is social knowledge. This process is stimulated and organized by language and—indirectly, through language—by the social heritage from the past. Under the leading of words we interpret our observation, both external and introspective, according to patterns that have been found helpful by our predecessors. When we have come to use understandingly such words as "kindly," "resolute," "proud," "humble," "angry," "fearful," "lonesome," "sad," and the like, words recalling motions of the mind as well as of the body, it shows that we have not only kept a record of our inner life, but have worked up the data into definite conceptions which we can pass on to others by aid of the common symbol.

Much of our social knowledge, especially that acquired from reading, involves a process more consciously introspective. One can hardly read a play or a novel intelligently, I should say, without recalling ideas and emotions from his own past for comparison with those of the people described. The hero, as we conceive him, is fashioned out of material from our own lives. Is it not rather absurd for scientific men to repudiate introspection? Does any one prepare a scientific report or article without first turning an inward eye upon the contents of his mind in order to see what he has to offer and how he can arrange and present it? In short, introspection, however abused by philosophers, is a normal and common process, without which we could know very little about life.

Introspection, if critical, is more objective than the usual practice of floating upon social currents without attempting to become aware of them. How can you be objective with regard to your motives unless you hold them off and look at them? I have in mind a recent book, a good book, too, in which the writer, who deprecates introspection, advances a series of opinions on social questions of the day so obviously those of his race, country, and social class that one can only smile at his naïveté. Surely a little introspection would not be out of place here: one's subjectivity needs to be understood, if only to avoid it.

It seems, then, that outside and inside in human life, consciousness and behavior, mutually complement and explain

each other, and that the study of external behavior as a thing by itself must, in the human field, be as barren as mere introspection, and for much the same reason, namely, that it isolates one aspect of a natural process from another. Nature has joined these things together, and I do not think that we gain anything by putting them asunder. Records of behavior without introspective interpretation are like a library of books in a strange tongue. They came from minds, and mean nothing until they find their goal in other minds.

However, I see no reason for quarreling with those extreme behaviorists who hold that we should observe men merely from the outside, as we do other animals. Let them work on this theory, if they find it helpful, and show what they can do. Even if it is wrong it may give rise to a valuable technique, as wrong theories have done in the past. It is fair to judge behaviorists by their behavior. I suspect that they will be found in practice to make use of introspection when they need it, much like the rest of us.[1]

At the opposite pole, it would seem, from behaviorism we have the method, or rather various methods, of mental analysis through the probing of consciousness and memory. These all rest in great part upon sympathetic introspection, or the understanding of another's consciousness by the aid of your own, and give full play to the mental-social complex. They may be used in sociology as well as in psychiatry, and, in fact, do not differ in principle from the personal interviews widely employed in the study of social situations. Indeed, I take it that the psychoanalytic psychology owes its vogue to its boldness in disregarding the rather narrowly spatial methods within which laboratory psychologists were confining themselves, and venturing, by the light of clinical interviews and introspective interpretation, to explore the weird caverns of the human mind. Men saw that the sequent revelations resembled what they knew of their own egos. The method is quite separable from

[1] I need hardly say that the scientific study of behavior has no necessary connection with the group of men who call themselves "behaviorists." Their extreme doctrine of the rejection of consciousness is best understood as a reaction against a former extreme, in psychology, of purely introspective study. Social studies have always been mainly behavioristic.

the extravagant theories associated with it and will no doubt be largely used.

I have conceded that social observation is, on the whole, less precise and verifiable, and hence less surely cumulative, than spatial observation, not only because the conditions can seldom be reproduced by experiment, but because the perceptions themselves are less alike in different persons, and so less easy to agree upon. Experience shows, however, that these difficulties are by no means sufficient to prevent objective and co-operative study of social phenomena, and a cumulation of knowledge which, though not so tangible as in experimental science, is capable in time of yielding vast results.

The basis of common social perceptions, and hence of cumulation, is in the general similarity of mental-social complexes throughout the human race, and the much closer similarity among those formed by the common language and culture. We become aware of this similarity by watching the behavior of other men, including their language, and finding that this behavior can be interpreted successfully by ascribing to them thoughts and sentiments similar to our own. The idea that they are like us is practically true; it works. It was generated in the experience of our earliest childhood, and we have gone upon it all our lives. This fundamental agreement upon meanings can be made more precise by the careful use of language and other communicative signs, something as sense-perceptions are refined by the use of instruments of precision (though probably to nothing like the same degree), and thus allows a transmission and cumulation exact enough for practical use.

All history, all news, all social investigation, is a record of what men did—of such visible acts as are thought to be significant, and also of their symbolic acts, their speech, and their works of art. But what makes the record interesting is that through our likeness to them it becomes also a record of what they were, of their meanings, of their inner life, the semblance of which is awakened in us by the acts recorded.

I open Herodotus at random and find an account of how the Carthaginians, having captured many Phoceans from disabled ships, landed them and stoned them to death. But after this the sheep, oxen, or men who passed the spot were stricken with

palsy. So they consulted the Delphic Oracle, who required them to institute a custom of honoring the dead Phoceans with funeral rites. Here is a record of behavior which we interpret by sympathy. We feel the cruelty of the Carthaginians, their wonder and alarm at the strange conduct of the stricken men and animals, their anxious resort to Delphi, their awed obedience to the oracle. Of the grounds for criticizing this narrative from the standpoint of a wider study of human ideas and human behavior I need not now speak. Like all social observation that comes down from the past, it must be interpreted in view of the difference in mental complexes between the men who made the records and us who read them. We must, as we say, get their background and point of view. But men are, after all, so much alike that an imagination trained by comparative study can usually make out fairly well what the records mean. The true reason why we must, in sociology, rely mainly upon contemporary rather than historical facts is the inadequacy of the record. History does not tell what we want to know, and we must look in the world about us for answers to questions which the men of old never thought of putting.

At any rate we actually have accumulations of social knowledge. Aristotle and many other early writers collected facts which are still held to be trustworthy, and interpreted them by generalizations which still command respect. In modern times the process has gone on developing in volume, diversity, and precision, and has given rise to technical groups of specially trained men. We have many kinds of history, we have social anthropology, political science, law, economics, sociology, comparative religion, comparative literature and art, and other departments, each with its own archives of recorded fact.

Indeed, as regards cumulation the study of mankind has a great advantage in that its subject matter is uniquely self-recording. Even the records of geology and paleontology do not compare in richness with those that man hands down about himself through language and the several arts. And the more he approaches and enters a civilized state, the more extensive these records become. The dinosaur may leave his skeleton and even his (or her) eggs, but man deposits a fossil mind. We know infinitely more about him than we do about any other animal,

and the difficulty of accumulating knowledge, so far as primary facts are concerned, is quite imaginary. Dispute, as in other fields, is mainly about interpretation. The selection and explanation of facts has heretofore proved provisional; it has to be done over again with every change in the general current of thought. But is not this true of all science? At this moment the whole theoretical trunk of physics has been torn up by the roots and seems likely to be thrown upon the rubbish pile. A lasting structure of knowledge is hardly to be expected, except as regards the primary facts and their simpler relations, and this much we may expect in social science as well as in spatial.

It is high time that I referred to that body of knowledge and practice known as statistics. Statistics is an exact method, and it is enabled to be such precisely because it is not in itself social but mathematical. It does not directly *perceive* social facts, or any other kind of facts, but it takes standard units of some sort, which may be perceived social facts, and compiles, arranges, manipulates, and presents them in a way intended to make them yield illumination. The statistician operates between the primary observer, on the one hand, and, on the other, the theorist who demands light on certain hypotheses. Perhaps I may without offense liken him to a cook, who neither supplies the food nor consumes it, but is a specialist upon the intervening processes.

Evidently it would not be good sense to assume any antagonism between the exact methods of statistics and the more fallible procedure of sympathetic observation and interpretation. They are complementary and do not or should not overlap. The only opposition likely to arise is one due to the bias of the practitioner. A statistician, if he lacks breadth of mind, is apt to be so fond of his exact processes that he avoids and depreciates anything else, while the sympathetic observer is apt to be impatient of statistics. This difference of tastes would not do much harm if the functions were kept separate, but when a man who is fit for only one assumes both the result is unfortunate. Much statistical work, especially that based upon questionnaires or interviews, is vitiated by a lack of dramatic insight into the states of mind of the people who supply the in-

formation. A questionnaire is an instrument of social perception, and if its use is to have any scientific character, the first duty of the user is to dramatize the play of thought and feeling that takes place between the person that puts the question and the person that answers it. What was the actual state of mind of the latter, and what the human significance of his reply? Not every investigator has the insight and the conscience to perceive and report this real fact, commonly so different from the apparent fact, upon which the value of his work depends.

And so with the questions or problems used in mental tests. If they aim only to test the power to perform standardized operations they are objective, but, socially speaking, superficial; if they go beyond this and attempt to discover social or moral attitudes they are subjective, and of no value for science without sympathetic interpretation.

It is not the case that social science is becoming exact through the substitution of statistics for social sympathy and imagination. What is taking place is, rather, that the use of sympathy and imagination is becoming more competent, while statistics is being substituted for guesswork in the manipulation of data.

Another impression which I take to be erroneous is that statistics is revealing uniformities or regularities in social phenomena which indicate that these phenomena may in time prove to be subject to exact prediction in quite the same way as those of physics. It is true that statistics is revealing sequence, order, and a remarkable degree of predictability in certain social processes. By analysis of what has taken place during the past ten years, especially in the economic field, where the facts are largely material, it may be possible to forecast what will take place in the next five; and no one can say how far we may go in this direction. The whole basis of this, however, seems to be the prevalence of inertia and the rarity and slowness of the more originative processes. The greater part of human phenomena are so far routinized as to be more or less subject to calculation. Wherever men, under the impetus of habit and suggestion, are moving ahead in a mechanical manner, or where their intelligence is merely repeating what is essentially an old synthesis of motives—as, for example, in

deciding whether to marry or not—exact methods are in place. The complex of human events can, to a great extent, be resolved into currents of tendency moving on definite lines at ascertainable speeds. If we can measure these lines and speeds it may be possible to predict their combined operation, much as the motion of a comet is predicted by calculating the resultant of the gravity, tangential momentum, and other forces acting upon it. The whole basis of prediction in such fields as that of the business cycle is the belief that the underlying motivation is essentially standardized or repetitive.

Probably no exact science could have foreseen the sudden rise of the automotive industry and the genius of Henry Ford, although now that this industry is developed and institutionized we may perhaps calculate with some precision what it will bring forth in the near future.

There is no good reason to think that such statistical methods can anticipate that which, after all, chiefly distinguishes human life from physical processes, namely, originative mental synthesis, whether by outstanding individuals or by groups. The kind of mechanistic theory which would exclude the unique function of human consciousness and will is not only highly speculative and unverifiable, but seems, as a speculation, to be losing ground. Recent philosophic writers (for example, our colleague Professor Sellars [1]), in so far as they accept mechanism or determinism, interpret them in such a way as to leave intact our human power of reorganizing and redirecting life in a manner that no exact science can hope to foresee.

There is indeed one way in which physical and social science may be assimilated. We may find that atoms and electrons are not so uniform and reliable as has been believed, that the supposed physical laws are only statistical, covering diversity in the phenomena somewhat as social statistics cover the diversities of individual men. Indeed, we are told by men apparently competent that "the present state of physics lends no support whatever to the belief that there is a causality in physical nature which is founded on rigorously exact laws." [2] In some

[1] R. W. Sellars, *Evolutionary Naturalism, passim.*

[2] Hermann Weyl, quoted by J. W. N. Sullivan, *Aspects of Science,* p. 158.

such way as this the gulf may be bridged, but never, I think, by reducing the human will to zero.

Having dealt so far with observation, either direct or mediated by technique, I come now to the interpretive use of the data, to the attempt to build a structure of social truth. This is, in all sciences, a work of the imagination, and a work which has always in the past proved to be provisional and to require renewal to meet the general advance of thought. I see no reason to expect anything else in the future.

At the present time all the sciences of life are, I suppose, controlled by the idea of organic development. Darwin gave these studies their orientation by making them studies of process rather than state, of what is going on rather than what is, of a drama rather than a picture. For many years, however, evolutionary ideas were applied to social phenomena chiefly in an external and analogical way; they were imposed artificially, not allowed to grow naturally out of the social processes themselves. The result was a vast body of social theory and propaganda, all claiming to be evolutionary and scientific, but none of it the work of a technical group devoted primarily and disinterestedly to the study of social facts. Even at the present time specialists in contiguous evolutionary fields contribute profusely to social literature and by no means hide their belief that they know more about what is important to society than do the so-called "sociologists." Whether they do or not, it is a fact that some of these extraneous doctrines, like the pseudo-Darwinism of Nietzsche or the hereditary determinism of the more extreme followers of Galton, have had, and still have, a wide influence.

I shall assume, however, that, after all, social phenomena are most likely to be understood by those who make the study of them their main business, and that the application of evolutionary ideas in this sphere is the task mainly of history, anthropology, ethnology, political science, economics, social psychology, sociology, and kindred disciplines. All of these studies have, in fact, a decidedly evolutionary trend, and several of them may be said to have been created by the evolutionary movement. All of them aim at the understanding of personal and social wholes in the actual process of living. All make increasing use

of social psychology. They do not aim to resolve social phenomena into elements which are not social, but rather to investigate the simpler and more general social processes and use the knowledge thus gained in synthetic interpretation of larger social wholes. This may be done by the use of well-chosen samples, as in studies of individual persons, of typical local or institutional conditions, and the like.

In general, the insights of sociology, if I may take that subject as representative, are imaginative reconstructions of life whose truth depends upon the competence of the mind that makes them to embrace the chief factors of the process studied and reproduce or anticipate their operation. This requires native ability, factual knowledge, social culture, and training in a particular technique.

It is sometimes supposed that pre-Darwinian studies in history, literature, art, and social theory were essentially unscientific and futile; in fact, mere rubbish needing to be swept aside by the advancing forces of science. On the contrary, many of these studies were based on common sense, had a sound empirical basis, and are even now of more value than hurried, dogmatical, and mostly analogical efforts to supplant them by something having the appearance of natural science. Such efforts have given rise to a variety of pseudo-sciences, some of which are flourishing at the present time, but they have not broken the real continuity of contemporary social knowledge with the solid work of earlier generations. Sociology, at least, recognizes whole-heartedly the value of pre-evolutionary research, and expects that its students shall know something of the great currents of historical, literary, and artistic tradition; shall have, indeed, as broad a culture in the humanities as possible. This culture affords the only access to great stores of facts with which we cannot dispense. It also affords a perspective of the development of social interpretation. Most of the generalizations now being defined, explored, tested, and developed into systematic knowledge were foreshadowed by penetrating minds of the past. How much of modern social psychology is implicit in the maxims of La Rochefoucauld, what insight into social processes had Gibbon! Sainte-Beuve, who saw literature as an organic human whole, observing the in-

dividual writer and the current of literary tendency with equal understanding, was a real sociologist in the field of criticism. Goethe was one in an even larger sense. An honest and competent student will be deferent to the achievements of the past and will lend no countenance to those shallow spirits who see scientific method as a sort of trick of laboratories and schedules by which they may avoid the slow approaches of actual social knowledge.

As to prediction, I have already pointed out that in the more mechanized processes of the social system it may be remarkably exact. We have no ground, however, to expect any such exactness in foretelling the multitudinous fluctuations of human life in general. Prediction, in any science, requires that the mind embrace the process, as the physicist, in his formula, embraces the process of a falling body, and so, through participation, foresee the outcome. Even in natural science this can usually be done with precision only when the process is artificially simplified, as in the laboratory. The social processes of actual life can be embraced only by a mind working at large, participating through intellect and sympathy with many currents of human force, and bringing them to an imaginative synthesis. This can hardly be done with much precision, nor done at all except by infusing technical methods with a total and creative spirit.

The human mind participates in social processes in a way that it does not in any other processes. It is itself a sample, a phase, of those processes, and is capable, under favorable circumstances, of so far identifying itself with the general movement of a group as to achieve a remarkably just anticipation of what the group will do. Prediction of this sort is largely intuitive rather than intellectual; it is like that of the man with a genius for business as contrasted with that of the statistician; it is not sincere, but it is the very process by which many of the great generalizations of science have first been perceived.

Predictions of any sort, however, are most likely to be sound when they are made by those who have the most precise familiarity with the observable processes, and it is the increase of this familiarity on the part of social observers, along with their greater insight into principles, that should make them

better guessers of what is to happen than they have been in the past.

What, then, is there new in contemporary social science, what, if anything, that promises a more rapid and secure accumulation of knowledge than in the past? Mainly, I should say, the following:

1. Liberation from outworn theological and metaphysical assumptions and reorganization on the basis of factual study and an evolutionary outlook.

2. The rise of a technical group of adequately trained scholars, with those traditions and standards, that expert criticism and exacting group atmosphere, indispensable to all higher achievement.

3. The development, since 1860, and especially since 1900, of a network of factual theory, by which I mean theory springing from observation and capable of being verified or refuted by the closer study of fact. Such theory is to be distinguished from much of the older speculation, which was largely metaphysical, unverifiable, and for that reason of no use in stimulating research.

There is nothing startling in the present movement. It shows no break with the past, does not promise any phenomenal power of prediction, and is, in fact, chiefly occupied with the ascertainment of what is actually going on and with the development of technique. We are trying to describe and interpret human life in the same spirit that the life of animals and plants has been described and interpreted, but with due regard to the different character of the problem. The human material is peculiar not only in its enormous abundance and variety, but in requiring, to deal with it, a radically different theoretical and technical equipment.

CASE STUDY OF SMALL INSTITUTIONS AS A METHOD OF RESEARCH

X

CASE STUDY OF SMALL INSTITUTIONS AS A METHOD OF RESEARCH[1]

All science, I suppose, proceeds by analysis, that is, by intensive study of what appear to be the more essential and lasting constituents of nature, by penetrative observation of limited, manageable, representative phenomena. If we can understand these we may hope to extend our knowledge to larger wholes.

Now in the realm of life the representative phenomena are themselves life-processes. What else can they be? Life is always life, not an assemblage of other things. If we study facts of mere structure it is always in the hope of getting light on the life facts to which they are related. In sociology we do much work whose relation to vital process is indirect and may not be apparent, but is there if the work is worth doing. It is back of our study of attitudes, for example; a research concerning the attitudes of immigrants has in view, I suppose, a better eventual understanding of the life-changes which come with the mingling of races, nationalities, and cultures.

Another way of putting what I have in mind is to say that the object of our study is always behavior, not forgetting that it may be an indirect object, and that groups and institutions *behave* as well as individuals. A common-sense meaning for behaviorism would seem to be *the study of life from the standpoint of organic process,* and in this sense we are all, I suppose, behaviorists. We see life as adaptation, survival, evolution, and are interested in acts as they bear on these processes. That some behaviorists desire to exclude consciousness from such study is a notable fact, but hardly gives them the right to monopolize an expressive word.

[1] This paper was read at the 1927 meeting of the American Sociological Society and appeared in the Society's *Publications,* XXII (1928), pp. 123-32. It was reprinted in *Personality and the Social Group* (E. W. Burgess, Ed.), pp. 181-91.

It seems to me that this organic or behavioristic point of view involves some revision in our criteria of scientific knowledge. We are accustomed to think of scientific exactness as a matter of measurement in small units of space and time. But behavioristic knowledge is essentially organic, must exist in wholes or it does not exist at all. Even in its simplest forms it deals with conformations, patterns, systems, not with mechanical units. For this reason the phenomena of life are often better distinguished by pattern than by quantity. Those who are striving to make sociology an exact science might well give more attention to the method of pattern comparison. Starting, perhaps, from the use of finger prints to identify criminals, it might conceivably be carried, by the aid of photography and phonography, into very subtle regions of behavior. Measurement is only one kind of precision. What could be more precise, as a record of visible behavior, than a motion picture? Yet it is not quantitative. Its precision is total, not incremental, a matter of patterns rather than of minute differences in space. Our instruments of precision should be such as record living wholes, not such as reduce them to lifeless units. If we had a film of George Washington, with phonograph accompaniment, taken when he was conducting the raid on the British at Germantown, it would add more to our precise knowledge of him than all the measurements imaginable. The insistence on the quantitative where it is out of place is one source of that laborious futility not uncommon in certain lines of research.

And yet I would not wish to abate that ardor for measurement that is so healthy a trait of recent work. Many kinds of observation must be quantitative in order to be precise, and the statistical processes by which we ascertain whether an observed act is typical or not are quantitative in their nature. We must use discrimination.

The statistical method cannot take us very far in subjects like education or criminology, where understanding of persons is the main thing. It does not deal with the organism as a whole, but with traits or functions of some sort which are artificially separated and treated as numerical units. What *is* a trait apart from a man? Does it not get its reality from

being an aspect of a concrete human organism? And if you take that away, what is left? Statistics of traits are useful as an indication of mass tendencies, but they give us no human reality, and should, in such fields, be subsidiary to the study of whole persons.

What, then, is the aim of behavioristic science? I take it to be the complete preception, record, and understanding of fundamental acts, with the consequent ability to foresee them.[1] This calls, first, for an exact and comprehensive technique of observation and comparison, and then for all the constructive imagination we can bring to bear. How would this apply to animal life, to the behavior, let us say, of mallard ducks? I suppose that adequate science must require, for one thing, a moving-picture record of all the essential functional acts of the species, their modes of feeding, of coition, of nesting, brooding, concealment, attack, defense, and so on. When our technique permits, this should include the functioning of colors and cries, and should embrace, not only the birds themselves, but what is essential in the environment. One must also, no doubt, make records of weight and dimensions, of the number and length of the wing feathers, and other details having some bearing on function. Statistical inquiries regarding the numbers and movements of the birds may well be undertaken, because these reveal large-scale functional activities. If we had all this observed, recorded, and digested, not merely in detail, but as a living whole, so assimilated by the imagination that we could understand how the species adapts itself and has adapted itself to the conditions of life, and could predict what a given member of it will do in a given situation, we should perhaps know as much about the behavior of mallard ducks as a mere man can expect to.

In the case of a more intelligent and social species, like the chimpanzees studied by Köhler, the behavior record will embrace the social and intelligent acts, including the rudiments of language. There may be people so devoted to the statistical idea who, watching the wonderful motion pictures of Köhler, will say, "This is interesting, but it is not exact science. It

[1] I have found stimulating the discussion of behaviorism by Grace A. de Laguna in her work on *Speech.*

wouldn't do at all for a Doctor's thesis." I would think that it compared well in scientific quality with the best statistical work, and is an example of the organic or total way of recording behavior which we need also in the study of human life.

I take it that the ideal for sociology is to extend the behavior record to all the essential acts of man, making them intelligible, imaginable, predictable. We aim to see human life as an actual dramatic activity, and to participate also in those mental processes which are a part of human function and are accessible to sympthetic observation by the aid of gesture and language. We must see it not only from the standpoint of individuals, families, and nations, but also from that of the functional groups and processes into which human life is differentiated. Conceived in this way the technique of sociology will consist partly in some sort of description, at once exact and dramatic, analogous to the motion pictures of Köhler. Perhaps much may be done with actual pictures. Professors Odum and Johnson have already taken photo-phonographic records of Negro singing,[1] and one can readily think of other directions in which research of this kind would be in order, in child study, for example, or in recording the proceedings of a mob. The social behavior of man is, however, for the most part so subtle, so complex, and so little confined to time or place that the only technique adequate to describe and record it is that of language. Language is itself a form of social behavior, one of the latest achievements of evolution, and as indispensable as the brain itself to the higher kinds of life. Its function is to define, record, organize, and guide the subtler forms of human activity, and it is natural that social science, which aims to extend and perfect this function, should find in language its main instrument.

A language record may be used as objective data for the study of personal and group behavior, as are the letters printed by Thomas and Znaniecki in their study of *The Polish Peasant*. Or language may be used as the instrument by which qualified observers define and record traits of behavior which could not be otherwise preserved.

It has been customary, under the influence of physical science,

[1] See *Negro Workaday Songs*, chap. xv.

to think of "scientific" and "literary" as antithetical terms. I believe that we shall have to get this idea out of our heads, and come to see that a literary technique, exact, disciplined, responsible, and yet vivid and imaginative, is indispensable to social description. Even in the sciences of animal behavior the literary powers of such naturalists as W. H. Hudson and William Beebe are not merely ornamental, but a part of their scientific equipment. In psychology some writers, notably William James, have made use of dramatic passages, original or quoted, to describe typical human conduct; and we have in sociology a growing output of serious descriptive literature which is not less scientific because the animal whose habits it describes is man. Such work cannot be done well without mastery of the instrument.

Much of the prevailing skepticism regarding the possibility of a science of human life arises from a conception of science which would exclude those vivid and dramatic aspects without which life would not be human. Behaviorism promises to put the dramatic where it belongs, at the center.

The behavior processes that we study may be vast, complex, and difficult of access, like the procedure of our government in levying and collecting taxes, or they may be on a small scale and rather easy to get at, like those of many individuals and families. In the latter case it is possible for a student to comprehend them, to identify himself with them, and to present them to others in a fairly complete and lifelike biography. This is what I understand by case study: a direct and all-around study of life-histories, as distinguished from the indirect, partial, and somewhat abstract information bearing upon such histories with which we often have to be content.

We all feel, I think, that there is something peculiarly real and stimulating about case study, even when its contribution to theory is not apparent. It deepens our perceptions and gives us a clearer insight into life. It is truly behavioristic in that it gets at behavior directly and not by an indirect and abstract approach. If we can have enough of it and of sufficiently varied types to be representative of the social process, it will go far to enable us to understand that process, and perhaps to foresee its course.

While persons and families are the usual objects of case study, the method may be extended to other constituents of the social process, to the life-histories of groups and institutions not too large to be treated in this direct and total fashion. These also are live things, and offer a field of behavioristic study which, though by no means unknown, has been relatively neglected. Nothing else can take its place; it is a distinct and indispensable method.

Perhaps I should explain the difference, as I see it, between an institution and a group. It is largely in the point of view. A group is primarily an aggregation of persons, like a family, a regiment, a congregation, a board of directors. A group may or may not be participating in an institution, that is, in a continuous organic activity with a social heritage of its own and with methods of co-operation which it imparts to the persons who enter into it. Even if they are so participating, much of their personality may have little to do with the institution; they belong to it by certain habits and interests; and on the other hand, the institution is more than a group; its vitality consists in an organic whole of transmitted ideas which has the power to enlist the activities of a group, but does not, for the most part, originate with the group, and cannot be explained as a mere product of their personalities. It must be seen as a distinct organic process.

Anyone who has tried his hand at social research will be likely at this point to ask how far it is possible to pick out for analysis simple, distinct, and representative institutional processes. Is it not a fact that the whole institutional complex is so intricately interlaced that you cannot separate anything from the rest without destroying its reality? Can you hope to understand such a whole by building it up from supposed elements? This is quite just, but applies to the study of persons as well as of institutions. No analysis of a personality is possible apart from that social complex of which it is an aspect. What the analyst does is to get such knowledge of the social complex as seems to be most pertinent, and with this background to go ahead with intensive study of the person, perhaps seeking more knowledge of the complex as the need for it arises. And so with our analysis of the institutional process;

we must select for study elements that are as distinct, typical, and manageable as we can hope to find, and subject them to intensive study in a setting of such knowledge of the milieu as we can get, expecting that an increase of this knowledge will be one result of our study.

But just what is it that we want to know about the behavior of small institutions? Suppose that we have captured one and have it under observation: What shall we observe? I presume that our aim is to understand what part the form of life we have before us plays in the social process, and also, perhaps, to foresee its operation, know how to influence it, and, by comparison, extend our knowledge to other forms more or less similar. A mature science of such forms should apparently include the ascertainment of types and an intimate knowledge of the distinctive working of each.

I suppose that every institution holding its own in the world must have a special character and function which explains its power to live. Perhaps our first aim should be to ascertain this character and function, to find out how it appeals to human nature and is enabled to enlist a share of human vitality in its service. Commercial institutions, for example, have in general obvious functions, but an adequate characterization of a successful institution of trade would have to include also those subtle traits of organization and spirit which explain just how and why this institution is viable while others, if they are viable, are so in a different way. I have had to do, for instance, with several publishing concerns, and am of the opinion that their distinctive behaviors would make an instructive study. And even general functions are not always obvious. In the case of the Ku Klux Klan research might be required at the outset to see why such an institution should exist at all. Or consider college football, an institution that has had a rank growth under our own eyes. There is something more in it than the obvious athletic functions; you could not explain it without going into crowd psychology, its exploitation by an organized athletic interest attached to the educational system (a "cancerous growth" as some hold), and the use of the game by college officials as a means of mobilizing alumni. And so patriotic institutions, like the National Security League;

political, like Tammany Hall; religious, like the Salvation Army; juvenile gangs, already an object of notable studies—these and many others would probably yield curious fruits to the searching investigator.

This intimate and distinctive character of an institution might be compared to the theme of a symphony, continually recurring, and of which the whole organism of the music is a various unfolding. Like that it is a pattern running through the web which this particular loom turns out. To ascertain this and set it forth may call for as much imagination and insight as to distinguish and describe the ego of a person. And like that it becomes, when we have grasped it, the focus of our study.

After ascertaining its character or theme we may, I suppose, go on to inquire just how the institution develops and works under various conditions, how it acts and reacts and is modified, how its character may, in time, come to be transformed. It will have mechanisms of attack and defense, methods of recruiting and training, and, so far as its processes are conscious, some provision for investigation, discussion, valuation, planning, and propaganda. There will also be interactions within the institution between its heritage and the persons who carry it on, as in the case of leaders and experts; also discipline and an equipment of suitable mores. All this the student must enter heartily into if he is to understand how the life of the institution is sustained and enhanced.

It so happens that without any plan on my part, but on the initiative, chiefly, of the students themselves, there have recently been carried out at the Michigan Graduate School several investigations more or less of the sort I have indicated. Among these the best example of a completed study is the dissertation of Read Bain, presented in 1926, entitled, "The Growth of an Institution: A Sociological Interpretation of the Tillamook County Creamery Association of Tillamook, Oregon." This is a whole-hearted study of the life-history of a farmers' organization old enough to have had a well-defined and successful institutional development. Dr. Bain writes in no abstract or merely academic spirit, but with a hearty par-

ticipation in his subject, manifest in the descriptive parts, which include a sympathetic chapter on "The Cow." The specific character, life-processes, and transformations of the institution are convincingly set forth and illuminating comparisons made with other institutions of somewhat similar type. The whole subject of producers' co-operation is brought into clearer view, and this view extends, in some measure, to the wider theory and practice of co-operation and to its probable future. A consideration of this cheese-producing association has suggested to Dr. Bain the possibility of a rural county becoming an integrated social organization built around the dominant agricultural interest. This may or may not be practicable, but to suggest such possibilities and investigate their practicability is surely one of the higher aims of research.

Another completed study of somewhat similar nature is the investigation of student association at Michigan by Robert C. Angell, which will appear as a book, under the title *The Campus,* during the present winter. This is a study, not of a single institution, but of a limited institutional complex, of very recent growth, remarkably open to observation, and of much significance for education and for the social process at large. The author may be called a "participant observer," to use Mr. Lindeman's term, relying quite as much upon his own recent familiarity with campus life as upon the statistics he has collected, and so is able to animate his facts by authentic interpretation. When we have a number of such studies, as we doubtless shall have, they will considerably illuminate American education.

A third study is still going on; and of studies still going on the less said, perhaps, the better. They should be allowed to retain that embryonic seclusion and indetermination which a premature publicity would impair. But probably no harm will be done by saying that it is concerned with an institution devoted to a specific social reform, and presumably more or less typical of institutions of that sort. Such a study, if competently carried out, should give us some insight into those processes of social leadership and control with which such institutions deal.

The type of research which I have been discussing seems to me to be quite as promising as others which are more in favor. At least it is one way by which we may hope to extend our knowledge of what is going on in the world and our power to control the process.

SUMNER AND METHODOLOGY

XI

SUMNER AND METHODOLOGY[1]

Like every one else I have been thinking a good deal of late about research, methodology, and the like, and it has occurred to me that a promising way to approach the matter would be to ask, What is the most successful work of research that American sociology has produced? No doubt opinions would differ about this, but it seems to me, on reflection, that if a vote were taken, bearing in mind that the question refers to factual methods and results as distinguished from more speculative sociology, a plurality of the voters, if not a majority, would probably be found to favor Sumner's *Folkways.* Let us assume, at any rate, that this is the case and ask ourselves, What can we learn about methodology from Sumner? What sort of work is *Folkways* and how was it produced?

What strikes me most strongly when I consider this question is that *Folkways* does not conform to any of the current canons of methodology. It is not *quantitative;* it does not proceed by *statistical method;* it is not made up of *case studies;* it is not *psychoanalytic,* nor yet *behavioristic,* according to the doctrine of the sect that goes by that name, since much of the material it uses is based on sympathetic imagination. Moreover, it is not in any great measure a work of direct observation at all! It is almost all second hand. And, last and worst, its objectivity is open to question. There is reason to think that Sumner was by no means an unbiased man, but was, on the contrary, noted for a somewhat dogmatic individualism and pessimism that were not without influence upon his treatment of the folkways.

Just before I left home I read an article in one of our lead-

[1] This brief paper constitutes the remarks made by Professor Cooley at the annual dinner of the American Sociological Society, December, 1927. It was published in *Sociology and Social Research,* XII, No. 4 (March-April, 1928), pp. 303-6.

ing sociological journals by one of the most distinguished writers, in which he maintains that institutions, groups, folkways, and that sort of thing are not *real* in a scientific sense at all. If Sumner had been living at the present time and had had the advantage of consulting this author he might have learned, apparently, that the object of his studies simply did not exist, at least for science, and so might have spared himself the trouble of pursuing them further.

Nearly all that I have said of Sumner's *Folkways* might also be said of Darwin's *Origin of Species,* which, so far as method is concerned, was a work of much the same character. They are both books in which the author seems quite regardless of everything except collecting the greatest possible body of pertinent facts and striving to make out what they mean.

You may say, perhaps, that Summer (like Darwin) was a pioneer, and that what did well enough in those rude times must be given up in these riper days when we are hoping to develop our subject into a real science. But does any one doubt that if a book of the same force, originality, and wealth of suggestion were to appear now it would have just as much success? Or that people would care as little about the orthodoxy of the method as they did twenty years ago?

Well, what does all this mean as regards methodology? Certainly not that it is unimportant; perhaps merely that we should not take the methodological dogmatist too seriously. I am not sure but that methodology is a little like religion. It is something we need every day, something we are irresistibly impelled to talk and think about, but regarding which we never seem to reach a definite conclusion. Each one, if he is clever, works out something adequate for his own use, but the more general principles remain unsettled. Others help us far more by their example than by their theory. It would appear that a working methodology is a residue from actual research, a tradition of laboratories and work in the field: the men who contributed to it did so unconsciously, by trying to find out something that they ardently wanted to know. If other sciences have more than ours it is because they have a longer record of achievement.

To return to Sumner. I think I see at least two inferences

that we can well draw from his case. The first regards the power of an abundant factual material. It is this, together with his vigorous personality and style, that more than anything else gives Sumner his immense influence. There are pages of facts, fresh, fascinating, well presented facts, for each idea. You are led to assimilate the subject in a natural, enjoyable way. It took great patience to accumulate all this material, and admirable reserve to withhold and brood over it until his ideas were mature and fit to shape into a lucid book. If he had been anxious to be known as a "research man," eager to get credit for his work as soon as he had done it, if not before, he could never have attained any such success. Perhaps this is a trait of methodology about which young students might concern themselves more than they do.

Another lesson is the old one of self-reliance. It is a matter of history that every one who has done anything important in the past has done it partly by resisting immediate and contemporary influences and finding a way of his own. There are plenty of us elders to tell the young student just what to do and how to do it. He can learn a great deal from us, no doubt, but only on condition that he rely first of all on his own judgment and common sense. The best authorities agree that science is nothing more than common sense refined and perfected, and if a rule of methodology appears, on fair consideration, to be opposed to common sense, he is safe, I think, in disregarding it.

It is always wise, in your own development, to retain the initiative. In my opinion a young man should not go to a teacher and say, "Give me a research project and show me how to work it out," nor should a teacher countenance any such attitude. If the student is to do anything important it will be rooted in his own life, and his first task is to discover and develop the germ. Let him retire into the wilderness, if necessary, and mature his purpose. When he goes to a teacher he should be able to say, "I know in a general way what I want to find out, and I have prepared a tentative plan for doing so. I should be glad to have your opinion as to what I have done and how I may proceed with it." It is easy to help those who can help themselves.

THE LIFE-STUDY METHOD AS APPLIED TO RURAL SOCIAL RESEARCH

XII

THE LIFE-STUDY METHOD AS APPLIED TO RURAL SOCIAL RESEARCH[1]

The aim of all our study, I suppose, is a more adequate perception of life, to see better what is going on, and for this purpose we must in some way break up the social complex and examine it by parts. There seem, in general, to be two ways of doing this: We may study closely actual persons or groups, and use the perceptions thus gained as a core upon which to build an understanding of other persons and groups, and eventually of the whole complex. In somewhat the same way a naturalist hidden in a tree-top with his camera watches and records the nesting behavior of a pair of birds, hoping by a series of such studies to understand those of the species. This is the method of intensive observation, known in general as case study. When it takes the form of life-like description covering a period of time it may be called more specifically the life study method; and it is this term which I shall use to-day.

On the other hand we may observe on a large scale and attend to the individual case only to see whether it does or does not manifest certain standardized traits, the object being to arrive at averages, scales, graphs and the like which may for certain purposes be regarded as representative of the social complex. This method is like that of the naturalist who shoots his birds and describes them on the basis of measurable characters, like the length of the bill, or the number of primary, secondary and tertiary wing feathers, proceeding then to classify them in species and varieties, in order to study their distribution, movements and evolution. This is the method of

[1] This paper was read at the 1928 meeting of the American Sociological Society and appeared in the Society's *Publications,* XXIII (1929), pp. 248-54.

extensive abstract observation, commonly known as the method of statistics. It has well known advantages upon which I need not dwell, but has the defect of always remaining abstract and schematic, of never grasping life in its organic reality. It has numerical precision (which is by no means the same as truth to fact) but does not attempt the descriptive precision which may be attained by the skilful use of language, supplemented, perhaps, by photography, phonography and other mechanical devices.

There are those who depreciate description on the ground that it is not quantitative and hence does not permit exact measurement and comparison; but they overlook, it seems to me, two facts: first, that distinctively human or social behavior, being a phenomenon of patterns rather than quantities—patterns of facial expression, gesture, voice, words and the like,—can be stated in quantitative terms only by a fiction of some sort, which is often useful and hence justifiable, but removes the procedure from the sphere of exact science; and, second, that the idea of the quantitative having an exclusive claim to be the true or perfect form of knowledge, or the only one which makes science possible, flows from an obsolescent philosophy from which it would seem desirable to escape.[1]

All the natural sciences are primarily descriptive, and sociology is that natural science in which description is more various and difficult than in any other. What should we think of a zoology which failed to give a life-like account of the animals?

On its affirmative side the quantitative ideal—Measure everything you can—is admirable; on its negative side—Deal with nothing that you cannot measure—I believe it to be obstructive.

[1] A modern view may be found, for example, in A. N. Whitehead's *Science and the Modern World* (1925); R. W. Sellar's *Principles and Problems of Philosophy* (1926); K. Koffka's *The Growth of the Mind* (1925), and in a recent pamphlet by Wm. E. Ritter on *The Organismal Conception, Its Place in Science and Its Bearing on Philosophy* (1928), published by the University of California Press. Whitehead's position is especially interesting, since he is an eminent physicist who advocates abandoning the atomistic and mechanical conception of nature hitherto held by physicists and substituting an organic conception, which, since it answers to the evident facts of society, is largely used in sociology. Some of our colleagues would apparently have us "ape physics" by putting on the old clothes which the physicists themselves are beginning to discard.

I venture to think that we can expect no satisfactory insight into any social complex without making life studies of the chief social agents involved in it. This is the only way to make a living as distinct from an anatomical analysis. We are seeking, I presume, to get at the human meaning of our institutions and processes as they work out in the lives of men, women and children. How can we expect to succeed without perceiving in human terms what is not going on?

We notice constantly that it is hardly possible to interest even intelligent people in social exposition that does not take a life-like form, and that statistics, except as an adjunct to something more human, are commonly regarded as unreadable. Of the millions who read eagerly about Gopher Prairie, Zenith City and Winesburg, Ohio, few, probably, will attend to a statistical survey of those places. Is this merely an effect of the slothfulness of the human mind, or has it some justification in common sense and the rational search for knowledge? The latter, I should say. The basis of reality for our knowledge of men is in sympathetic or dramatic perceptions; without these we are all in the air. No wonder, then, that commonsense demands, first of all, that we be enabled to form such perceptions. The novelist gives us something human, dramatic, real; colored, no doubt, by his temperament and point of view, but far nearer the truth than any numerical description. He is a behaviorist who portrays people in action and shows minds and bodies functioning together in organic process. We cannot wholly scorn his method if we hope to put across sociology as a science of life.

In looking over examples of recent research in the rural field I have admired the ability and ardor of the investigators and have noted that some of them were seeking to animate their work by searching case-studies. On the whole, however, it seemed to me that the workers, somewhat obsessed by the idea that they must offer nothing unquantitative, have been timid about attempting a lifelike portrayal of behavior. I have in mind, for example, a recent study of rural villages, admirable in most respects, published in several volumes by the Institute of Social and Religious Research. The information has been faithfully collected, intelligently organized and clearly pre-

sented, but it certainly does not leave the reader with the feeling that he has seen deeply into the life of these villages. There would seem to be a fixed purpose, especially remarkable in a quasi-religious investigation, to stay on the outside of things —religion included—and to be quantitative at all costs. Thus, regarding leadership, I read:[1]

> No scale could be devised within the scope of this investigation to evaluate leadership, to analyze its quality, or even to isolate the factors that accounted for the leadership attributed to the individual; and no previously devised methodology to do this was ready at hand. Leadership was evidently a fact of vital importance in these villages but to study it in any precise way is a task for the future.

The lifelike portrayal of typical leaders by competent biographic or autobiographic description of their behavior in critical situations was apparently considered either unscientific or impracticable.

Unimaginative observation is superficial observation, no matter what the method may be. All science calls for imagination, and in our subject it largely takes the form of an insight into motives which makes possible a penetrating description of behavior.

A more satisfactory inquiry from our present standpoint, is that of Kolb and Wileden into special-interest groups in Wisconsin. This is based on case-studies of 351 groups, the material obtained from schedules being skilfully digested by statistical and other methods, including the presentation of a composite or generalized life cycle of the kind of organizations studied. There are also eight selected case-histories illustrating processes of especial interest. I think highly of this report, and will only ask, by way of criticism, whether the case histories would not have been more lifelike if given in narrative form instead of by detached paragraphs.[2]

[1] Brunner, *Village Communities*, p. 93.

[2] I should like more incidents as telling as the story of the meeting of the Sunnyside Community Club.

I question whether the use of detached paragraphs with captions in a different type is not carried to excess all through this report. It is hard to read consecutively. To give it more flow I would suggest collecting the captions to form outlines at the beginning of chapters or relegating them to the margin. It seems to me, also, that a readable concluding chapter is needed to sum up the report.

Let me say a word in praise of that almost classic study, Williams' *An American Town.* I would not call it a model of method; it is good because Williams was thoroughly possessed of his material, had brooded over it and worked himself into it until he deeply understood the people about whom he wrote. He is dramatic, not in form but in essence by virtue of an insight into behavior which the reader is enabled to share.

The aim of a descriptive technique in rural sociology should be, I take it, so to picture the essential functional behavior of rural persons and groups that their life can be understood in as much of its dramatic reality as possible. It seeks to give "revealing instances" about which the reader may build a life-like and just conception of what is going on. This involves a judicious selection of those events that *are* essential, that reveal the critical functions, the high spots as it were. There must be nothing lax or superfluous in scientific description, any more than in a play. Only the indispensable must be shown; but that must be shown so deliberately and graphically as to be convincing. Just what the revealing instances are which should be selected in connection with projects of rural research now under way,—studies of the standard of living of farm families, of young people's organizations, of the rural church, rural migration, rural leadership and so on,—I will not attempt to say, but it seems to me that all of them might and should be illuminated in this manner. Why should a standard of living be set forth merely in statistics, and not also by some description of how it works out in life?

I am not sure that there are any models that one could unreservedly commend to rural sociologists as guides to their descriptive technique; we need something new, something that combines the insight of literature with the disinterestedness and factual truth of science. Helpful examples may, however, be found in various quarters.

First and most important of these sources of suggestion is the good work already done in the rural field, as in the investigations I have mentioned. And a wider survey of sociology will show many instructive examples of the use of autobiographies, diaries, interviews and other life-study materials.

A branch of literature nearly related to sociology from which

we might learn not a little is the portrayal of the social psychology of nations other than our own. Although most such studies are far from scientific there are some good ones; for example a recent study of Germany by Professor Danton of Peking. His manner of seeing is sociological and penetrating, while the facts he gives are not less convincing for being without formal arrangement. He has as it were, psychoanalyzed many types of Germans with notable fairness and skill, thus making possible a real understanding of their behavior.

A more formal use of psychoanalysis may be found in the science of psychiatry which has developed a searching kind of case-study by interviews, of which the investigation of juvenile delinquency, as in the Judge Baker studies by Dr. Healy, offers perhaps the best examples. This instrument might well be focussed upon representative persons in the rural scene. It is a subjective method in the sense that it depends for its data on the insight and judgment of the observer, rather than on anything independent of his personality. It is therefore hard to check and liable to be swayed by preconceptions, but may be trustworthy when we have confidence in the observer and when we have other means of confirming his results. Training in this technique may be had at the schools of social work and at some universities.

Another technique which one may well make himself familiar with is that of anthropology, found in good descriptive monographs. As matter for scientific observation a primitive tribe is not wholly unlike an unfamiliar aspect of our own society, and in a competent work, such as that of W. H. R. Rivers on the Todas, we can see how it may be described. As good examples could probably be found in American anthropology.

A marked feature of anthropological technique is the extended use of photography to show typical persons, both in repose and as functioning in the customary processes of the tribe. And I may add that the field of mechanical record of social process through motion pictures, phonography and the like is one in which fruitful development may be expected. I have remarked elsewhere that social life, in its sensible aspect, presents itself as patterns rather than quantities, and if so the

techniques by which patterns may be recorded are full of scientific promise.

As regards literary technique in general, the sociologist should study it if only because it is one of the most exact and searching forms of communication, itself a social process of the greatest interest. In using it as a means of social description he will not aim at anything so brilliant as to divert his own attention or that of the readers from the sober truth. And yet it is his duty to give a living transcript of his perceptions. I am inclined to think that the chief and perhaps the only rule to follow is first to make sure that he himself sees clearly what he wishes to describe, and then to try patiently to express it, taking care to work only when his mind is fresh and his vision clear. The best writers have, I believe, no other method; any formal rule or any imitation of a model will prove a delusion. I recently made a rather careful study of an excellent contemporary novel with a view to discovering just how the author succeeded so well in portraying character.[1] My chief conclusion, after examining many passages, was that her description was so varied, so elusive, so subtly suggestive, that it seemed probable she had no formal technique at all, but, having the character vividly before her mind, merely indicated its behavior in each situation as she saw it. Visual description was less frequent than I expected to find it; in fact there was an avoidance of the overtly dramatic in favor of a finely indicated drama of thought and sentiment. And yet this is no esoteric work but a best seller.

In any case the technique of descriptive social science can hardly be that of the novelist, because the latter is seeking to communicate something of his own device, the actuality of which is not in question; he aims only to convince the reader that it might be true. The scientist, on the other hand, aims to describe an event and also to substantiate it by an array of fact. Thus he has reason to lean rather heavily on the sensible, to introduce verifiable details when they are relevant, and to convey verbal behavior in part by direct quotation. But after all his own vision of the fact must be the dominant thing;

[1] *Death Comes for the Archbishop,* by Willa Cather.

if he does not convey this he will convey nothing worth while. To pass on to the reader unselected and unorganized facts is simply to make himself unintelligible.

It may be worth while to linger for a moment before concluding to consider the question whether social description should confine itself to reporting overt behavior, including speech, or whether it should also report states of mind which the observer perceives by an insight for whose truth he can give no tangible evidence. Clearly such insights should be offered and received with caution and checked constantly by something more verifiable. If we had at hand a perfect technique for seeing and recording all overt behavior it would perhaps be possible for the observer merely to select and present what he thought most significant without further comment. But even this would involve interpretive insight, and in view of the actual inadequacy of our means of record I conceive that the attempt to describe human events from the outside only is visionary, and that science as well as common-sense justifies us in supplying some measure of interpretation. The truth is that our every-day perceptions of a man's behavior are a mixture of the visible or audible with imaginations of the psychic process going on behind it; without the latter we couldn't follow him at all, should lose track of him and overlook what was most significant even in what we could see and hear. Our whole interaction with one another is of this kind. We perceive the other person's behavior, ascribe to him a corresponding state of mind, respond to this state of mind by our conduct, and note whether his further behavior shows that we understood him rightly. Mostly it does, and so we come to know empirically that we can and do understand his mental process enough to respond successfully to it and to elicit desired responses in return. The ascription of a course of mental behavior is, then, in the nature of a working hypothesis which guides and sharpens our observation of a course of overt behavior. If you observe the outside only you will observe that superficially. Who, for instance, would notice the subtile but expressive differences in the lines about the mouth and eyes, if he had not, by a process involving introspection, learned

to associate them with interesting states of feeling. A merely external behaviorism would be a shallow behaviorism, and if those who profess to ignore the inside are not always shallow, it is, I suspect, because they do not always adhere to their principle.

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XIII

BIBLIOGRAPHY OF CHARLES HORTON COOLEY'S WRITINGS

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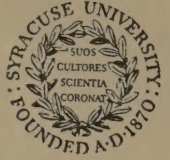

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